ENDOPHYTIC FUNGI AS A SOURCE OF SUBSTANCES WITH ANTIBACTERIAL ACTIVITIES

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Fungal endophytes are ubiquitous fungi that inhabit healthy plant tissues, live asymptomatically, without causing diseases, are relatively unstudied and are also potential sources of novel natural products, which are usually secondary metabolites. The biosynthesis of these compounds is coordinately regulated and respond to culture media conditions. Here the endophytic fungi *Papulaspora immersa* and *Arthrinium arudinis* were isolated from *Smallanthus sonchifolius* (Asteraceae) and cultivated in Jackson and Czapek liquid medium. Crude extracts from the filtrated medium were examined for their antibacterial activities. The screening was conducted using microdilution method against *Staphylococcus aureus, Micrococcus luteus, Pseudomonas aeruginosa* and *Escherichia coli.* The crude extracts inhibited the growth of test microorganisms and the best values were found in EtOAc *P. immersa* extract against *P. aeruginosa,* 90-92 μg/mL, and EtOAc *A*. *arudinis* extract against *E. coli*, 150-160 μg/mL. The activities showed by these fungi indicate that they may represent a potential for direct pharmaceutical applications and they may be chemically modified to yield semi-synthetic derivatives as many other fungal secondary metabolites.

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