

Antimicrobial bioactive compound isolated from podaxis pistillaris in southern Iraq

Abstract

Podaxis pistillaris is a xerophilic mushroom widely distributed in the southern Iraqi desert. The aim of this study was to examine the antimicrobial bioactivity of metabolic compound isolated from the fungal extract using liquid culture media under optimized growth conditions in vitro. The results indicated that a single bioactive compound P1 was extracted from the fungal culture filtrate. The identification of this compound was confirmed by using GC-Mass and ¹H NMR. Solubility, toxicity and the molecular weight of the isolated bioactive compound were determined. The isolated compound P1 belongs to aliphatic group with a molecular weight of 340 kd. The antimicrobial bioactivity of the extracted compound P1 against the bacterial strains *E. coli* and *S. aureus* and the dermatophytic fungus *Microsporum gypseum* was tested using a disc diffusion agar method. The minimal inhibitory concentration (MIC) was also performed. This compound exhibited a good bioactivity against the tested bacteria and revealed inhibition zones of 25 mm and 21 mm diam against *E. coli* and *S. aureus*, respectively. However, low bioactivity of this compound against the tested fungal dermatophyte was detected.