

## عنوان مقاله:

Malva sylvestris inhibits Candida albicans biofilm formation

## محل انتشار:

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## خلاصه مقاله:

**Introduction:** Candidiasis-associated biofilm formed by Candida species complicates treatment and contributes to unacceptable high mortality rates. We performed the aqueous and ethanol extracts of the different parts of Malva sylvestris, Dorema aucheri, Ferulago angulata and Citrullus colocynthis plants to identify best plant extract that inhibits growth of Candida albicans or Candida krusei, and conducted a series of follow-up studies to examine the inhibitors of C. albicans biofilm formation of the identified plant extract. **Methods:** The antifungal activities of the aqueous and ethanol extracts of the different parts of M. sylvestris, D. aucheri, F. angulata and C. colocynthis plants were evaluated in vitro using disk diffusion test and broth microdilution test against C. albicans and C. krusei. The crystal violet assay, morphological response and expression pattern of hyphal wall protein 1 (HWP1) gene were carried out to investigate the biofilm-inhibitory properties of the best plant extract tested in C. albicans. **Results:** The screen identified ethanol extract of M. sylvestris root that largely represented antifungal activity among the tested extracts. M. sylvestris root inhibited C. albicans biofilm formation. Ethanol extract of M. sylvestris root demonstrated significant reduction in C. albicans biofilm formation ( $P < 0.005$ ). Moreover, morphological observation of ethanol extract of M. sylvestris root treated cells confirmed a decrease in biofilm thickness and cellular density. Finally, ethanol extract of M. sylvestris root displayed significant down-regulation of HWP1. **Conclusion:** These results provide proof of concept for the implementation of ethanol extract of M. sylvestris root as inhibitor of C. albicans biofilm formation.

## کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا:

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