

***In vitro* anticandidal activity of xanthorrhizol isolated from *Curcuma xanthorrhiza* Roxb**

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Abstract

Objectives: Xanthorrhizol, isolated from the methanol extract of *Curcuma xanthorrhiza* Roxb., was investigated for its anticandidal activity using six *Candida* species.

Methods: The *in vitro* susceptibility tests for xanthorrhizol were carried out in terms of MIC and minimal fungicidal concentration (MFC) using the NCCLS M27-A2 broth microdilution method. Time-kill curves were determined to assess the correlation between MIC and fungicidal activity of xanthorrhizol at concentrations ranging from 0 MIC to 4x MIC.

Results: All *Candida* species showed susceptibility to xanthorrhizol in the MIC range 1.0–15.0 mg/L for *Candida albicans*, 1.0–10 mg/L for *Candida glabrata*, 2.0–8.0 mg/L for *Candida guilliermondii*, 2.5–7.5 mg/L for *Candida krusei*, 2.5–25 mg/L for *Candida parapsilosis* and 2.0–8.0 mg/L for *Candida tropicalis*. Time-kill curves demonstrated that xanthorrhizol was able to kill the *Candida* strains with MFCs of 20 mg/mL, 15 mg/mL, 12.5 mg/mL, 10 mg/L, 30 mg/mL and 10 mg/L for *C. albicans*, *C. glabrata*, *C. guilliermondii*, *C. krusei*, *C. parapsilosis* and *C. tropicalis*, respectively.

Conclusions: The potent anticandidal activity of xanthorrhizol may support the use of *C. xanthorrhiza* for the treatment of candidiasis.

Keywords: *C. xanthorrhiza* , MIC , MFC , antifungals