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Antifungal Effect Of *Curcuma zedoaria* Ethanol Extract and Fractions Against *Aspergillus niger*

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Abstract: The aim of this study is to investigate the active fraction of *Curcuma zedoaria* ethanol extracts against *Aspergillus niger*. The simplisia of *C. zedoaria* rhizome was extracted with ethanol using a maceration method. The phytochemical screening of ethanol extract was performed to detect antifungal secondary metabolites. All of the antifungal activity test for extracts and fractions were conducted using the agar diffusion method. The thick extracts were then fractionated by liquid-liquid extraction method with a funnel using several solvents such as: n-hexane, ethyl acetate, and water. The minimum fungal concentration (MFC) was determined by a serial macrodilution method, followed by subculturing the overnight minimum inhibitory concentration test result. The antifungal active fraction, then compared with nystatin using the agar diffusion method. The results showed that ethanol extract and n-hexane fraction have antifungal activity against *A. niger*. The MFC value of n-hexane fraction was ranged at 0.25-0.50% w/v. While the antifungal comparative value of n-hexane fraction and nystatin against *A. niger* was $1:7.22 \times 10^{-7}$. It can be concluded that the ethanol extract and n-hexane fraction of *C. zedoaria* rhizomes prospects as an antifungal against *A. niger*.

Keywords: *Curcuma zedoaria*, antifungal, *Aspergillus niger*, n-hexane.

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