

Antibacterial Activity of Benzyl Benzoate and Crotepoxide from *Kaempferia rotunda* L. Rhizome

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Abstract	<p>Benzyl benzoate and crotepoxide are the major components of <i>Kaempferia rotunda</i> L. rhizome. However, the bioactivity study of benzyl benzoate and crotepoxide as the antibacterial activity were still limited. Therefore, the antibacterial activity of benzyl benzoate and crotepoxide against four pathogenic bacteria, i. e., <i>Escherichia coli</i> ATCC 25922, <i>Enterococcus aerogenes</i> ATCC 13048, <i>Bacillus cereus</i> ATCC 6538 and <i>Staphylococcus aureus</i> ATCC 11778 were investigated. The isolation steps included the extraction by maceration with acetone, and then the acetone extract was partitioned with n-hexane:methanol (1:1) and ethyl acetate:water (1:1) respectively. The isolation by liquid vacuum chromatography followed by column chromatography was yielded benzyl benzoate from the n-hexane fraction and crotepoxide from ethyl acetate fraction. The molecular structure of isolated compounds was identified based on NMR (1D and 2D) spectroscopic data. The antibacterial activity assay of isolated compounds was carried out using the disc diffusion method. The antibacterial evaluation confirms that the benzyl benzoate and crotepoxide exhibits a medium level activity. Benzyl benzoate showed highest antibacterial activity against <i>B. cereus</i> with MIC of 50 μg/mL and inhibitory zone of 5.9 mm, while the crotepoxide showed highest antibacterial activity against <i>E. aerogenes</i> with MIC of 100 μg/mL with inhibitory zone 6.1 mm.</p>
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