

Antibacterial activity of *Nicolaia speciosa* fruit extract

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<b>First Author</b>	
<b>Last Author</b>	
<b>Authors</b>	Naufalin, R; Herastuti, SR;
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<b>Abstract</b>	<p><i>Nicolaia speciosa</i> fruit contains bioactive compounds which have potentials as natural antibacterial agents. Two extraction methods of bioactive compounds of <i>N. speciosa</i> fruit, i.e. single and multistage extractions, were evaluated. The multistage extraction utilized series of solvents in sequence involving hexane (nonpolar solvent), ethyl acetate (semipolar) and ethanol (polar). The antibacterial activities of the extracts were evaluated against <i>Escherichia coll.</i>, <i>Bacillus cereus</i> and <i>Pseudomonas aeruginosa</i>, using agar Well diffusion method in combination with Thin Layer Chromatography (TLC) method and by observing the cell membrane leakage. The multistage extraction provided higher yields and reduced extraction time compared to the single step method. Ethanolic extract of <i>N. speciosa</i> showed the strongest inhibitory effect against bacteria. The minimum inhibitory concentration (MIC) of the ethanolic extract ranged from 20 mg/mL to 32 mg/mL. The TLC method showed that the fractions of ethanolic extract of <i>N. speciosa</i> with Rf 4= 0.33; Rf 8 = 0.82 and Rf 9 = 0.83 showed better antibacterial activity. The release of cells materials, measured at 260 and 280 nm using UV- Vis spectrophotometer was observed, indicative of leakage of the cytoplasmic membrane. ((-1-) All Rights Reserved</p>
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<b>Author</b>	Dr RIFDA NAUFALIN, S.P