

## Phytochemical Analysis and Antioxidant Activity of Brotowali (*Tinospora crispa* L. Mier) Stem

<b>Title</b>	Phytochemical Analysis and Antioxidant Activity of Brotowali ( <i>Tinospora crispa</i> L. Mier) Stem
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<b>Abstract</b>	<p>Free radical in the body could cause degenerative diseases such as diabetes mellitus and hyperlipidemia, which could be prevented by the supplementation of antioxidant whether it is synthetic or natural. Flavanoids is a phenolic compound, was extracted from natural sources is known for its antioxidative potential. This research aimed to investigate the active compounds in brotowali (<i>Tinospora crispa</i>) stem to find new antioxidative potential using its ability to bind 2, 2-diphenyl-1-picrylhydrazyl (DPPH). Brotowali stem was extracted using ethanol and fractioned using n-hexane, ethyl acetate, and water. Water fraction was hydrolyzed by chloric acid. The antioxidant activity of ethanol extract, water fraction, and hydrolyzed water fraction (subfraction I and subfraction II) were determined using spectrophotometry (DPPH methods). The compound of flavonoid was identified using KLT with AlCl<sub>3</sub> reagent spray. The results showed that ethanol extract and water fraction of brotowali stem contained flavonoid glycoside of flavonol group. Antioxidant activity, quantified using IC<sub>50</sub>, of ethanol extract, water fraction, subfraction I and subfraction II were 49.92 µg/mL, 38.25 µg/mL, 36.12 µg/mL, and 16.18 µg/mL, respectively. In addition, this research was found that hydrolysis of water fraction using chloric acid like in subfraction I and subfraction II was able to improve its antioxidant activity.</p>
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