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

Title	Phytochemical Analysis and Antioxidant Activity of Brotowali (Tinospora crispa L. Mier) Stem
Author Order	3 of 3
Accreditation	1
Abstract	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 (Tinospora crispa) stem to find new antioxidative potential using its ability to bindÃƒÂ,Ã‚Â 2, 2Ã‚Ã¢Ã¢Â‚Â¬Ã¢Â„Â¢-diphenyl-1-picrylhydrazylÃƒÂ,Ã‚Â (DPPH). Brotowali stem was extracted using ethanol and fractioned usingÃƒÂ,Ã‚Â n-hexane, ethyl acetate, and water. Water fraction was hydrolyzed by chloric acid. The antioxidant activity of ethanol extract, water fraction, and hydrolized water fraction (subfraction I and subfraction II) were determined using spectrophotometry (DPPH methods). The compound of flavonoid was identified using KLT with AlCl3ÃƒÂ,Ã‚Â reagent spray. TheÃƒÂ,Ã‚Â results showed that ethanol extract andÃƒÂ,Ã‚Â water fraction of brotowali stemÃƒÂ,Ã‚Â contained flavonoid glycoside of flavonol group. Antioxidant activity, quantified using IC50, of ethanol extract, water fraction, subfraction I and subfractiont II were 49.92ÃƒÂŽÃ‚Â¼g/mL, 38.25ÃƒÂ,Ã‚Â ÃƒÂŽÃ‚Â¼g/mL, 36.12ÃƒÂ,Ã‚Â ÃƒÂŽÃ‚Â¼g/mL, and 16.18ÃƒÂ,Ã‚Â ÃƒÂŽÃ‚Â¼g/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.
Publisher Name	Universitas Jenderal Soedirman
Publish Date	2020-07-27
Publish Year	2020
Doi	DOI: 10.20884/1.jm.2020.15.2.533
Citation	
Source	Molekul
Source Issue	Vol 15, No 2 (2020)
Source Page	73-78
Url	https://ojs.jmolekul.com/ojs/index.php/jm/article/view/533/332
Author	Dr.rer.nat. apt HARWOKO, M.Sc.