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FREE RADICAL SCAVENGING ACTIVITY AND PHENOLIC CONTENT OF MLINJO TREE (Gnetum gnemon L.)

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ABSTRACT

Gnemon tree, *Gnetum gnemon, L (Gnataceae)* is cultivated in Indonesia, Malaysia and other south-east Asian islands for its seeds and is used as food in Indonesia. This tree may be considered as a suitable source of functional food, nutraceutical food supplement and their high bioavailability. The study was aimed to determine the antioxidant activity (total antioxidant and free radical-scavenging activities) and total phenolic content of different tissue such as root, stem, leaf, seed and pulp seed on mlinjo tree (*G. gnemon*). The total phenol varied from 5.97 and 9.91 mg GAE g-1 sample. Flavonoid contents were between 0.85 – 3.14 mg QE g-1 sample. 1,1-diphenyl-2-picryl hydrazyl (DPPH) radical scavenging effect of their extracts were determined spectrophotometrically. The highest radical scavenging effect was observed in root with 37.27 mg VCEAC g-1 sample. Furthermore, the radical scavenging activity of mlinjo tree tissue was in the order of root > leaf (36.66 mg VCEAC) > seed (34.08 mg VCEAC)> stem (32.52 mg VCEAC)>pulp seed (32.48 mg VCEAC). The greater amount of phenolic compounds leads to more potent radical scavenging effect as shown by mlinjo tree tissue extract.

Keywords : Antioxidant, Flavonoid, *Gnetum gnemon*, Radical scavenging, Phenolic