

Effects of drying on cholinesterases and angiotensin-I converting enzyme inhibitory potential and phenolic constituents of African mistletoe (*Loranthus bengwensis L*) leaves from kolanut host tree

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Abstract

This study investigated the most appropriate drying method (sun drying, oven drying, and shade drying) for mistletoe leaves obtained from kolanut tree. The phenolic constituents were characterized using high performance liquid chromatography–diode array detector, while the inhibitory effect of the aqueous extracts of the leaves on cholinesterases and angiotensin-I converting enzyme (ACE) and antioxidant activities were determined in vitro. The extracts inhibited acetylcholinesterase (AChE), butyrylcholinesterase (BChE), and ACE in dose-dependent manner. However, extract from sun-dried sample exhibited the highest AChE, BChE, and ACE inhibitory effect while extract from shade-dried sample had the least. Likewise, sun-dried sample exhibited the highest antioxidant properties as exemplified by Fe²⁺-chelating, 1,1-diphenyl-2-picrylhydrazyl, OH, and nitric oxide radical scavenging abilities. This study also revealed the presence of 20 phenolic compounds with caffeic acid being the most predominant. Conclusively, kolanut host tree mistletoe leaves can be used as therapeutic agent in the management of Alzheimer's disease and hypertension.

Keywords: Angiotensin-I Converting Enzyme, Cholinesterase, Drying, Kolanut, Mistletoe, Phenolics

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