

The free radical scavenging and anti-hyperglycemic activities of various gambiers available in Indonesian market

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Abstrak

ABSTRACT

Gambier (*Uncaria gambier*) is known to have antioxidant properties, and some studies have attributed it to the presence of polyphenols such as catechin. The objective of this study is to investigate the potential of various gambiers available in Indonesian market as a scavenger of reactive free radicals and evaluate its anti-hyperglycemic activity as α -glucosidase inhibitor. Isolation of catechin was done by extraction method with technical grade of ethyl acetate as solvent. Analysis of catechin in the dried gambier extract was carried out with TLC method. The molecular weight and content of catechin of dried gambier extract was determined by analyzing its mass spectra and spectrophotometer, respectively. The free radical scavenging activity of catechin of the resultant extracts was measured by using 1,1-diphenyl-2-picrylhydrazyl (DPPH) as stable free radical compound. The anti-hyperglycemic activity of catechin of ethyl acetate extracts was analyzed as α -glucosidase inhibitor. The result showed that various gambiers available in the market are very active as antioxidant, indicated by IC₅₀ of catechin of ethyl acetate extracts which were 4.6 to 18.2 μ g/mL for DPPH inhibition. The IC₅₀ for α -glucosidase inhibition is ranged from 40.45 to 52.43 μ g/mL, so they can be classified as anti-diabetic.