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INHIBITION OF ALPHA-GLUCOSIDASE BY SOME INDONESIAN MEDICINAL PLANTS FOR DIABETES MELLITUS

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ABSTRACT

Diabetes mellitus is a group of metabolic disorders characterized by hyperglycemia and associated with abnormalities in carbohydrate metabolism. Diabetes mellitus is one of the common diseases in Indonesia, and dominated by type 2 diabetes. One of the strategies to monitor blood glucose for type 2 diabetes mellitus is to inhibit production of glucose from the small intestine. α -Glucosidase inhibitors act against the enzyme in the gut to restrain liberation of glucose from oligosaccharides, and thereby reduces the postprandial glucose levels. By doing a screening of inhibitory effect on α -Glucosidase activity from some Indonesian medicinal plants, we can get new resources of α -Glucosidase inhibitor as a drug for type 2 diabetes mellitus. In this study, we determine the α -glucosidase inhibitory activity of 80% ethanolic extracts of 15 Indonesian medicinal plants. The method was an *in vitro* high model using spectrophotometer. The results indicated that almost of the extracts have inhibiting activity. Compared with the control acarbose (IC_{50} 117.20 μ g/mL), activities are belong to the barks of *Cinnamomum burmanii* (Nees & T.Nees) Blume, *Syzygium cumini* L. (Skeel), *Strychnos lucida* R.Br. and the flowers of *Syzygium aromaticum* (L.) Merr. & Perry with IC_{50} value of 2.11 μ g/mL, 3.78 μ g/mL, 5.40 μ g/mL, and 5.78 μ g/mL.

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