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Inhibition of Carbohydrate Digestion of Some Medicinal Plants

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To control postprandial hyperglycemia is one of major goals for the treatment of diabetes mellitus. Alpha-glucosidase is the enzyme to digest carbohydrate and inhibition of this enzyme could suppress postprandial hyperglycemia. Methanol extract of some medicinal plants were tested for the inhibitory activities against yeast alpha-glucosidase using *p*-nitrophenyl- α -glucopyranoside as a substrate in vitro. *Magnolia obovata* THUNB., *Alpinia officinarum* Hance, and *Chaenomeles sinensis* Koehne inhibited yeast alpha-glucosidase by 37.9%, 47.1%, and 29.3% at the concentration of 0.5 mg/mL, respectively. Acarbose, an alpha-glucosidase inhibitor, which is used for the treatment of diabetes mellitus inhibited the enzyme activity by 34.9%. *Magnolia obovata* THUNB. extract inhibited alpha-glucosidase by 28.2%, 20.9% and 10.7% at the concentration of 0.25, 0.1, and 0.05 mg/mL, respectively. Inhibitory activities of *Alpinia officinarum* Hance extract against alpha-glucosidase were 34.5%, 25.5% and 12.1% at the concentration of 0.25, 0.1, and 0.05 mg/mL, respectively. Thus, it could be concluded that *Magnolia obovata* THUNB., *Alpinia officinarum* Hance, and *Chaenomeles sinensis* Koehne could be effective agents for controlling postprandial hyperglycemia in diabetes mellitus.