

Thesis Title	The Study of Fern Extracts for α -Glucosidase Inhibitory Effect.
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Abstract

This research studied the extraction of selected ferns such as Paco (*Diplazium esculentum* (Retz.) Sw.), Clover Fern (*Marsilea crenata* Presl.) and Oak-leaf Fern (*Drynaria quercifolia* (L.) J. Sm.). Three ferns were extracted with hexane, ethyl acetate and ethanol respectively using maceration and soxhlet extraction. The fern extracts were studied for their α -glucosidase inhibition activity by UV/Vis absorbance spectrophotometer microplate reader using Acarbose as a positive control. α -Glucosidase inhibitors were used in the treatment of non insulin-dependent diabetes mellitus. The results showed that the extracts in ethyl acetate from Clover fern using soxhlet extraction gave the most α -glucosidase inhibition with the percentage inhibition of 98.57%. Whereas the extracts from Paco in ethyl acetate using maceration method showed the highest inhibition compared to the extracts from Oak-leaf fern and Clover fern. The values are 96.73 % and 67.89%, respectively. The results were compared to standard Acarbose, which exhibited 84.87 % inhibition at the concentration of 1.0 mg/ml. It is of interest that ferns should be further studied for treatment of diabetes mellitus (type II) as the glucosidase inhibitor and the lowering of blood glucose level. This observation will provide the basis for future examination of a medical supplement for the diabete prevention and support for phytochemical data of fern extracts.

Keywords: α -Glucosidase / standard Acarbose /diabetes mellitus /soxhlet extraction /maceration /fern