

## THE IN VITRO ANTIDIABETIC ACTIVITY OF LEAF AND BARK OF MATOA (POMETIA PINNATA J. R. & G. FORST) BY ALPHA-GLUCOSIDASE INHIBITORY ACTIVITY

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*Pometia pinnata* is a plant belonging to the *Sapindaceae* family that is found in eastern Indonesia such as Papua, Sulawesi and Maluku with the local name of matoa. Empirically, matoa is used as a traditional used as an antidiabetic. The purpose of this study was to determine the *in vitro* antidiabetic activity of aqueous and ethanol extract from the leaf and bark of matoa. The material used in this study was obtained from Manado, North Sulawesi, Indonesia. The aqueous extract was prepared by boiling the powder of the material in water at 90°C for 15 minutes, and ethanol extract by maceration in 70% ethanol. Phytochemical analysis showed that leaf and bark of matoa contains saponins, tannins, flavonoids and triterpenoids. The *in vitro* antidiabetic activity test was performed by the  $\alpha$ -glucosidase inhibitory activity method with p-nitrophenyl- $\alpha$ -D-glucopyranoside substrate and measured by UV-V spectrophotometer at 400 nm. The  $\alpha$ -glucosidase enzyme was obtained from *Saccharomyces cerevisiae*. The results showed that the leaf and bark aqueous extract of matoa had antidiabetic activity by  $\alpha$ -glucosidase inhibition with IC50 value of 9.74  $\mu$ g/ml and 10.65  $\mu$ g/ml, while the ethanol extract of leaf and bark of matoa 10.32  $\mu$ g/ml and 8.34  $\mu$ g/ml.

3. Soleh Kosela, Li-Hong Hu, Tiah Rachmatia, et al. (2000) dulxanthones f-h, three new pyranoxanthones from *Garcinia dulcis*, *Journal of Natural Products* 63(3):406-407.
4. Soleh Kosela, Li-HongHu, See-Chung Yip, Tiah Rachmatia, et al. (1999) Dulxanthone E: A pyranoxanthone from the leaves of *Garcinia dulcis*, *Phytochemistry* 52(7):1375-1377.

### Biography

Tiah Rachmatiah is working at the Faculty of Pharmacy, Institut Sains dan Teknologi Nasional, Indonesia as a Lecturer in several courses including Organic Chemistry and Phytochemistry. She is interested in the field of Natural Products and the research that she did cover the fields related to natural products such as chemical content of plants and bioactivities of plants.

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### Recent Publications

1. T Rachmatiah, et al. (2009) (+)-n-(2-hydroxypropyl) lindcarpine: A new cytotoxic aporphine isolated from *Actinodaphne pruinosa* Nees. *Molecules* 14(8):2850-2856.
2. Tiah Rachmatiah, et al. (2009) Bisbenzylisoquinoline alkaloids from the bark of *Actinodaphne pruinosa* Nees. *Malaysian Journal of Science* 28:75-80.