

Carotenoids from *Mangifera pajang* and their antioxidant capacity.

ABSTRACT

This study provides new data on the various carotenoids found in bambangan (*Mangifera pajang* Kosterm.) peel and pulp extracts, such as all-trans- α - and β -carotene, cis- β -carotene, 9-cis- β -carotene, and cryptoxanthin. Chemical and biological antioxidant assays were determined to evaluate the antioxidant capacity of bambangan peel and pulp extracts. Bambangan pulp had higher α - and β -carotene contents (7.96 ± 1.53 and 20.04 ± 1.01 mg/100 g) than its peel (4.2 ± 0.14 and 13.09 ± 0.28 mg/100 g); the cryptoxanthin contents of bambangan peel and pulp were 0.60 and 1.18 mg/100 g, respectively. The antioxidant activity results determined by chemical assay using the 2,2-diphenyl-2-picrylhydrazyl (DPPH) method showed that bambangan peel extract had higher DPPH radical scavenging activity than its pulp. In the biological assays bambangan peel and pulp had protective effects against hemoglobin and LDL oxidation at an extract concentration of 1 ppm. Bambangan peel is a therefore a potential source of natural antioxidants and could be utilized as a functional ingredient.

Keyword: Antioxidant activity; Bambangan; Biological assay; Carotenoids; DPPH