

Carotenoids and antioxidant capacities from *Canarium odontophyllum* Miq. fruit.

ABSTRACT

Carotenoids were isolated and identified from peel, pulp and seed fractions of *Canarium odontophyllum* Miq., and their antioxidant capacities were evaluated. all-trans- β -carotene was present in a large amount in peel (69.5 ± 1.0 mg/kg), followed by pulp (31.1 ± 0.76 mg/kg) and seed (15.1 ± 3.0 mg/kg). Additionally, 15-cis- β -carotene, 9-cis- β -carotene and 13-cis- β -carotenes were also major contributors to carotenoid contents in peel, pulp and seed fractions. Pulp exhibited excellent β -carotene bleaching activity, significantly higher than peel and seed; high 1,1-diphenyl-2-picrylhydrazyl (DPPH) radical-scavenging activity, whereas peel exhibited significantly higher scavenging activity of 2,2'-azino-bis(3-ethylbenzthiazoline-6-sulphonic acid) (ABTS) radicals. All the extracts exhibited good inhibitory effect against hydrogen peroxide-induced haemoglobin oxidation, ranging from 45.3 to 59.7%. This is the first report about carotenoids and antioxidant capacities from *C. odontophyllum* fruit, and indicates that this fruit can be explored and promoted as a potential source of natural antioxidants.

Keyword: Antioxidant activity; *Canarium odontophyllum*; Carotenoids; Haemoglobin oxidation.