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Fucoxanthin extractions of brown seaweeds and analysis of their lipid fraction in methanol

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Abstract

In this present study, fucoxanthin has been successfully extracted and purified from two species of Malaysian brown seaweeds, namely *Sargassum binderi* and *S. duplicatum*. The purity of the fucoxanthin obtained was > 99% as indicated by HPLC analysis. Both fucoxanthin content, and analysis of lipid fraction of the seaweeds in methanol showed that both samples contained a considerable amount of fucoxanthin and total lipids. The amount of fucoxanthin and total lipid farcation in methanol of *S. duplicatum* (1.01 ± 0.10 and 21.3 ± 0.10 mg/g dry-weight, respectively) was significantly higher than those of *S. binderi* (0.73 ± 0.39 and 16.6 ± 4.10 , respectively). Both types of seaweeds also contained a considerable amount of unsaturated fatty acids. However, in terms of docosahexanoic acid, eicosapentanoic acid, arachidonic acid, linoleic acid and alpha-linolenic acid contents, *S. duplicatum* was found to be higher (0.76, 2.55, 13.64, 5.81 and 5.35 %, respectively) than *S. binderi* (0.70, 1.82, 9.13, 6.37 and 4.39%, respectively). For saturated fatty acids, palmitic (C16:o) was found to be the major fatty acid in both samples studied.

Author keywords

Fucoxanthin; fatty acids; *S. duplicatum*; *Sargassum binderi*; Total lipid

Indexed keywords

Species Index

Sargassum; *Sargassum binderi*; *Sargassum duplicatum*

Engineering controlled terms

Bins; Linoleic acid; Methanol; Palmitic acid; Saturated fatty acids; Seaweed; Unsaturated fatty acids

Engineering uncontrolled terms

Alpha linolenic acids; Arachidonic acids; Brown seaweed; Fucoxanthin; Lipid fractions; *S. duplicatum*; *Sargassum binderi*; Total lipids

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Engineering main heading

Fatty acids

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Japan Society for the Promotion of Science	23380068	JSPS
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Abstract

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