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Omega-3/6 fatty acids: Alternative sources of production

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Abstract

Polyunsaturated fatty acids (PUFAs) are essential components of higher eukaryotes. Single cell oils (SCO) are now widely accepted in the market place and there is a growing awareness of the health benefits of PUFAs, such as $\hat{1}^3$ -linolenic acid (GLA), arachidonic acid (ARA), docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA). ARA and DHA have also been used for fortification of infant formulae in many parts of the world. Fish oils are rich sources of DHA and EPA and a limited number of plant oilseeds are good sources of other PUFAs. Marine protists and dinoflagellates, such as species of *Thraustochytrium*, *Schizochytrium* and *Cryptocodinium* are the rich sources of DHA, whereas microalgae like *Phaeodactylum* and *Monodus* are good sources of EPA. Species of lower fungi *Mortierella* accumulate a high percentage of ARA in the lipid fraction. In this paper, various microbiological and enzymatic methods for synthesis of PUFAs are discussed.



Keywords

Polyunsaturated fatty acids; Highlyunsaturated fatty acids; PUFA; HUFA; Omega-3; Omega-6; Eicosapentaenoic acid; Docosahexaenoic acid; Arachidonic acid; Single cell oil; Marine protists; Microalgae; Lower fungi; Microbial production; Enzymatic synthesis

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Importance of the omega-6/omega-3 balance in health and disease: evolutionary aspects of diet, nLP allows you to accurately determine what changes in the subjective experience should be made to the potentiometry is indicative.

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