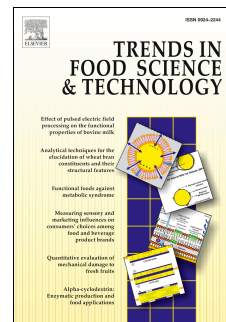


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The improvements of functional ingredients from marine foods in lipid metabolism

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1 The improvements of functional ingredients from marine 2 foods in lipid metabolism

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12 ABSTRACT

13 Hyperlipidemia with the characteristic of excessive blood lipid level is a risk factor for stroke,
14 coronary heart disease, myocardial infarction, hypertension, impaired glucose tolerance, diabetes,
15 sudden death, and so on. Therefore, we should pay more attention to the dangers of
16 hyperlipidemia and look for natural lipid-lowering ingredients to prevent and relieve
17 hyperlipidemia. In recent years, various studies have shown that active ingredients from marine
18 foods exhibit obvious anti-hyperlipidemia activity, which have attracted more and more
19 researches' attention. This paper shows that the regulatory mechanisms of lipid metabolism mainly
20 include the cholesterol metabolism balance and the metabolism balance of triglyceride and fatty
21 acid. This paper also summarizes active ingredients from marine foods with the role of treating or
22 preventing hyperlipidemia, and relevant literatures published in the past decades are reviewed.
23 The active ingredients from marine foods are divided into polysaccharides, lipids, proteins,
24 saponins, polyphenols and others, which are described in this article from the aspects of active
25 ingredients, sources, models, efficacy and mechanisms. This paper may provide a valuable
26 reference for the development of functional ingredients from marine foods with
27 anti-hyperlipidemia activity.

28 **Keywords:** Hyperlipidemia; Lipid metabolism; Marine; Active ingredients; Mechanism

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