
Title: Functional Foods Based on Seaweeds Polysachrides



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Proposal

Seaweeds, the plants like organisms also known as macrophytic or marine algae grow in coastal regions and are saline tolerant. Seaweeds are rich resources of natural nutrients some of which cannot be obtained from terrestrial plants. These algae are now well known for their richness in bioactive substances like polysaccharides, proteins, lipids, minerals, certain vitamins and Polyphenols exhibiting antibacterial, antiviral and antifungal properties. Bioactive compounds possess activity that has been shown to change the gene expression of a host at cellular level, thereby influencing health.

The concept of Functional food is a recent one, originating in Japan long ago but was further adopted and revalued in the United States and in Europe. A food can be regarded as functional food if it is beneficial beyond its basic nutritional effects; and satisfactorily/positively affects one or more target functions and health benefits in the body so that it either gives rise to an improved state of health and well-being and/or reduces of risk of disease.

Seaweeds are an abundant, economical, and attractive resource for use as a food ingredient. These are also an excellent source of vitamins A, B1, B12, C, D, and E; riboflavin; niacin; pantothenic acid; and folic acid. These properties give them the potential to be used in the development of functional food products. Due to their biochemical properties like being stabilizers, emulsifiers and gelling agents these are already successfully in use in food industry such as frozen foods, ice- creams, jellies and beverages etc. There is a huge scope for supplementation of food items with edible seaweeds to provide added health benefits to the consumers if introduced gradually into the diet. Polysaccharides from natural sources are found to be effective, non-toxic substances with a wide variety of activities. Significant amounts of seaweed derived polysaccharides have many applications like they are used in food, beverages, pharmaceuticals stabilizers, emulsifiers, thickeners, feed etc, and other products for human consumption. Polysaccharides can act as prebiotics (substances that stimulate the growth of beneficial bacteria in the digestive track) and exert growth-promoting and health- improving effects. About 76% of dry weight of seaweeds is composed of these compounds, some of which are absent in terrestrial plants. Among many different algal polysaccharides, the most important are galactans, fucoidan, laminarin and alginates. . As this evidence seems to be of value, this special issue welcomes further researches on polysaccharides derived from seaweeds and their utilization in functional food development.

In this special issue, materials relating to the creation and use of functional products for patients with infectious and non-infectious pathologies are especially welcome.

Keywords: Seaweeds, Functional foods, Optimum nutrition, Bioactives, Algae, Nutrition, Health, Dietary fibres.
