Abstract

Red Algae as Source of Nutrients with Antioxidant and Antimicrobial Potential

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Abstract: Seaweeds have been consumed since ancient times in different cultures, especially in Asian regions. Currently, several scientific studies have highlighted the nutritional value of algae as well as their biological properties. The present work was directed towards the determination of the nutritional composition (ash, protein, fat, carbohydrate content and energy value), the organic acids content, and also the antioxidant and antimicrobial activity of three typical red algae from Galicia: *Chondrus crispus*, *Mastocarpus stellatus* and *Gigartina pistillata*. The nutritional profile was determined by the methods described by AOAC, while organic acids were determined by UPFLC-PDA. The antioxidant activity was assessed using two in vitro assays: TBARS and OxHLIA. At last, antimicrobial activity was tested against two Gram (−), three Gram (+) and three fungus species. The results showed a similar nutritional composition among the three algae, with a low-fat content and a high content of proteins, carbohydrates and energy. Finally, in vitro assays showed significant antioxidant capacity of the three algae and antimicrobial potential against all the tested microorganisms. Thus, the study shows the potential of red algae to be part of the human diet, due to their nutritional content and bioactive properties, acting as antioxidant and antimicrobial agents.

Keywords: red algae; nutritional value; chemical characterization; antioxidant; antimicrobial

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