

Health Benefits and Pharmacological Effects of *Porphyra* Species

Plant Foods for Human Nutrition

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Review Article

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Abstract

Porphyra, one of the most cultured red algae has gained economic importance across the globe for its nutritional benefits. *Porphyra* is being cultivated, harvested, dried, processed and consumed in large quantities in south eastern countries. It contains relatively high amounts of proteins, carbohydrates, and micronutrients. Exploitation of its fundamental attributes led to the discovery of various biologically active compounds like polysaccharides, phycobiliproteins and peptides with effective pharmacological applications. In this review, a systematic account of the research accomplished in the past decade and up-to-date overview of various bioactive compounds and its pharmacological implications has been compiled. This review summarizes the bioactivities like antioxidative, immunomodulatory, antihypertensive, anticoagulant and anticancer properties of the bioactive compounds from *Porphyra*.

Keywords

Porphyra Nutritional content Porphyran Phycoerythrin Peptides
Pharmaceutical applications

Abbreviations

aPTT

Activated partial thromboplastin time

ACE-I

Angiotensin-converting enzyme

°C

Degree Celsius

CVD

Cardiovascular diseases

ConA

Concanavalin A

Da

Dalton

kDa

Kilodalton

DPPH

2,2-diphenyl-1-picrylhydrazyl

EPA

Eicosapentaenoic acid

μM

Micromolar

mmHg

Millimeter of mercury

RAAS

Renin-angiotensin aldosterone system

NO

Nitric oxide

ROS

Reactive oxygen species

TNF

Tumor necrosis factor

MAA

Mycosporine like amino acids

LPS

Lipopolysaccharide

nm

Nanometer

R-PE

Phycoerythrin

IC₅₀

Inhibitory concentration- 50

TEAC

Tetraethylammonium chloride

IFN- γ

Interferon-gamma

TNF- α

Tumor necrosis factor alpha

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Notes

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Compliance with Ethical Standards

Conflict of Interest

The authors Kalkooru L. Venkatraman and Alka Mehta declare that they have no conflict of interest.

Human and Animal Rights

This article does not contain any studies with human or animal subjects.

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