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Characterization of Phycocyanin Pigment from Marine Filamentous Cyanobacteria *Geitlerinema* sp. †

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Abstract: Algae is a simple and vast group of photosynthetic organisms. Algae grow in most of the natural environments, including water, rocks, and soil, but interestingly also grow on and in other organisms. Their main habitats are freshwater, brackish and marine ecosystems, Also volcanic waters and salt waters. Among them, marine algae are recognized as a rich source of beneficial bioactive compounds. Marine algal originated compounds have been reported to exhibit various biological activities such as anticoagulant, anti-viral, antioxidant, anti-allergic, anti-cancer, anti-inflammatory, anti-obesity, etc. Phycocyanin is a blue-colored naturally existing phycobiliprotein pigment, which is abundant in cyanobacteria, blue-green algae. In this study, phycocyanin was extracted from the *Geitlerinema* sp. UV-Vis spectroscopic analysis and HPLC analysis confirmed the presence of phycocyanin. The extracted pigment was assessed for their antioxidant property by various methods such as Phosphomolybdenum assay, Ferric ions reducing power assay, DPPH radical scavenging activity, Hydrogen peroxide free radical scavenging assay, Anti-lipid peroxidation activity. The study reveals that the phycocyanin pigments possess the antioxidant property, and it can be used as a promising pharmaceutical and nutraceutical compound.

Keywords: Marine algae; anti-inflammatory; phycocyanin; *Geitlerinema* sp.

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Conflicts of Interest

The authors declare no conflict of interest.