

PREPARATION AND CHARACTERIZATION OF ENCAPSULATED MICROALGAE EXTRACT FROM ARTHROSPIRA PLATENSIS

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Microalgae have become very promising resources to obtain functional ingredients with added nutritional value in terms of high bioactivity and sustainability. Encapsulation is an effective solution in preservation of bioactive compounds against unsuitable environmental conditions and securing their bioavailability, stability and targeted release. Moreover, freeze-drying and spray-drying techniques are well suited for the production of solid micro- and nanoparticles with bioactive ingredients which have great potential in the development of nutraceutical products.

In this study, encapsulation of fermented and non-fermented microalgae extract (*Arthrospira platensis*) using polysaccharide derivatives and by employing freeze-drying and/or spray-drying techniques have been investigated. In the first step, the dispersions containing *Arthrospira platensis* extract and selected polysaccharides have been prepared and their properties as well as the stability of compositions have been assessed. Subsequently, the processing of the dispersions into dry particles by using various techniques have been investigated. The loading of bioactive substances such as phycocyanins in the particles have been varied and bioactive properties of the particles have been evaluated.

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