

Evaluation of toxicity, antioxidant and bactericidal activity and the profile of beta-carotene from marine microalgae *Isochrysis galbana* and *Phaeodactylum tricornutum*.

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INTRODUCTION. Microalgae have been studied in biotechnological research due to its nutritional, economic and ecological importance. They are photosynthetic microorganisms, have a rich chemical composition and, due to that, they present high potential to generate compounds able to exert biological activities as antioxidants. Some species produce toxic substances that can be accumulated and carried affecting other organisms. They may also have high content of beta-carotene which is a carotenoid pigment that has been studied for their benefits to human health. In addition to that, microalgae can be produced under controlled conditions with low cost, due to its ability to grow in a wide variety of environments, favoring an exceptional biochemical production. **OBJETIVE:** Evaluate the antioxidant and bactericidal activity, as well as toxicity and beta-carotene profile of the marine microalgae *Isochrysis galbana* and *Phaeodactylum tricornutum*. **MATERIAL E METHODOS:** Liquid chromatography will be used to evaluate the beta carotene profile. For toxicity tests, larvae of *Artemia salina* will be used as experimental model. The method used for determination of the antioxidant activity of extracts and fractions will be held based on the capacity of DPPH to kidnap free radicals seen by the purple color, which in the presence of an antioxidant is reduced to form a yellow substance. Also we aim to evaluate bactericide activity; biomass obtained at the end of cultivation will be subjected to extraction with methanol in different concentrations, diluted in distilled water and DMSO (dimethyl sulfoxide). The antibacterial activity of extracts and fractions will be determined by disk diffusion method and microdilution in broth, using *Staphylococcus aureus* and *Escherichia coli*. The expected results are the determination of algae toxicity, bactericidal activity, as well as the profile of beta carotene of the seaweed mentioned above.

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