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Effect of sulphate supplementation on polysaccharide production and composition in two *Porphyridium cruentum* strains

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The marine microalga *Porphyridium cruentum* is of high commercial value because of its products. The main compounds produced are sulphated exopolysaccharides, polyunsaturated fatty acids (PUFA) and phycoerythrin, a red proteinaceous pigment (1). The easy growth conditions make the use of this alga very appealing.

The aim of this study was to improve culture conditions and polysaccharide production by *P. cruentum*. Polysaccharides produced in different culture conditions are being physically and chemically characterized to determine the importance of culture parameters.

Preliminary results reveal that supplementation of the medium with magnesium sulphate increases the production of biomass and polysaccharide in the two strains tested, ISR e ESP. With respect to the polysaccharide composition, the supplementation above mentioned also seemed to increase its sulphate content which, as described previously, should result in to a more efficient antiviral activity (2). The increase in sulphate content level was significantly higher for ISR strain. Its carbohydrate and uronic acid contents are apparently modified but further assays have to be carried out to confirm the results. Fourier Transform Infrared Spectroscopy (FT-IR) revealed some differences between the two strains studied and in the different culture media for each strain.

References:

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