



On behalf of the Scientific and Organizing Committee, we cordially welcome you to the first Tropical and Subtropical Cyanoprokaryota Workshop organized by the National Bank of Algae (Centre of Marine Biotechnology) of the University of Las Palmas de GC.

The TSCW2005 is intended to provide a place for presentation and discussion of current research and recent advances on the field of tropical and subtropical cyanoprokaryota. The Workshop will provide a broad forum for basic and applied research on this issue including taxonomy, molecular identification, ecophysiology, biodiversity assessment, species distribution and sustainable management, harmful and toxic blooms and biotechnology.

The TSCW2005 is aligned in balance with plenary lectures, demonstrations, oral presentations, poster sessions and social events that will offer you great opportunities to meet other colleagues in formal and informal way.

We expect that the frame of the TSCW2005 will improve the exchange of knowledge and future necessities among the participants come from Asia, Africa, America and Europe.

We would like to thanks all the collaboration of public and private organisms sponsoring the organization and the colleagues that believe in the necessity and the significance of dealing with this issue in the Canaries as the host of the first Tropical and Subtropical Cyanoprokaryota Workshop.

We wish you will find plenty of rewarding, scientifically and socially, during your attendance to the TSCW2005 and stay in Gran Canaria.

## HPLC CHARACTERIZATION OF THE POLYSACCHARIDE PROFILE OF *SPIRULINA SP* AFTER DIFFERENT HYDROLYTIC TREATMENTS

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*Spirulina* is a photosynthetic, filamentous, spiral-shaped, multicellular and green-blue microalga. Its chemical composition includes proteins (55-70%), carbohydrates (15-25%), essential fatty acids (18%), vitamins, minerals and pigments like carotenes, chlorophyll *a* and phycocyanin. *Spirulina* polysaccharide cell walls seem to play an important role in the immunostimulatory activity of animals (1) and humans (2), as well as antiviral properties (3). In the last decade an important effort is being made in order to obtain the total fractionation, characterization and isolation of such substances. In this sense, a polysaccharide with immunostimulatory activity has been isolated from *Spirulina* and is called "Immulina". This highly water-soluble polysaccharide represents between 0.5% and 2% (w/w) of the dry microalgae (4).

High Performance Liquid Chromatography (HPLC) based on size-exclusion (SEC) has been widely used for the separation and characterization of oligosaccharides (5). This technique allows the separation of different homologous fractions with approximately the same molecular weight. Other chromatographic techniques based on anionic exchange or reversed-phase chromatography can be employed for the final characterization of such homologous fractions (6).

In the present study it has been optimized the chromatographic parameters (stationary phase, flow and temperature) that affect the separation of the main oligosaccharides present in *Spirulina*. The performed methodology was applied to the determination of the oligosaccharide profile of a *Spirulina* cultivated in Gran Canaria as well as to different aqueous solutions containing the microalgae hydrolyzed under different conditions (pH, temperature, time and concentration of *Spirulina*). A discussion of the results obtained is presented.

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