

Supplementary File 1 - Partial chemical characterization of *Spirulina maxima*

Methods

1. *Microbiological analysis.* Total aerobic mesophilic bacteria, total coliforms, molds and yeast were determined by plating diluted spirulina samples in 3M™ Petrifilm™ plates, following manufacturing instructions.
2. *Heavy metals.* Chromium, zinc, lead, cadmium and arsenic (ppm) were analyzed according recommendations from the United States Protection Agency [1], by atomic absorption spectrometry (Perkín Elmer Analyst 200, USA).
3. *Chemical analysis.* Protein, fat, moisture, ash and carbohydrates (by difference) were assayed by approved AOAC methods procedures by triplicate.
4. *SDS-PAGE.* Molecular distribution of reduced/denatured protein species in *S. maxima* was determined by sodium dodecyl sulfate (SDS) gel electrophoresis according to Laemmli [2].
5. *Antioxidant profile.* Total phenolic compounds were determined by the method reported by García-Galaz *et al.* [3], total flavonoids by the method reported by Álvarez-Parrilla *et al.* [4], and the total carotenoids/chlorophylls according to Jensen [5].

Results

1. *S. maxima* showed absence of coliforms, yeasts, molds and mesophilic aerobes presence, so it was considered safe for human consumption.
2. The content (ppm) of Pb (0.11 ± 0.02), Cd (0.002 ± 0.003), As (0.04 ± 0.05), Zn (1.54 ± 0.18) in *S. maxima* were within the permissible limits.
3. *S. maxima* showed a total of 65% protein, 9% ash, 9% moisture, 1% lipids and 16% carbohydrates (by difference).
4. SDS-PAGE allowed the detection of two major proteins with an average molecular weight of 18 and 21 kDa (**Figure S1**), perhaps corresponding to Chethana *et al* [6].
5. Major antioxidant phytochemical content in *S. maxima* is described in **Table S1**.

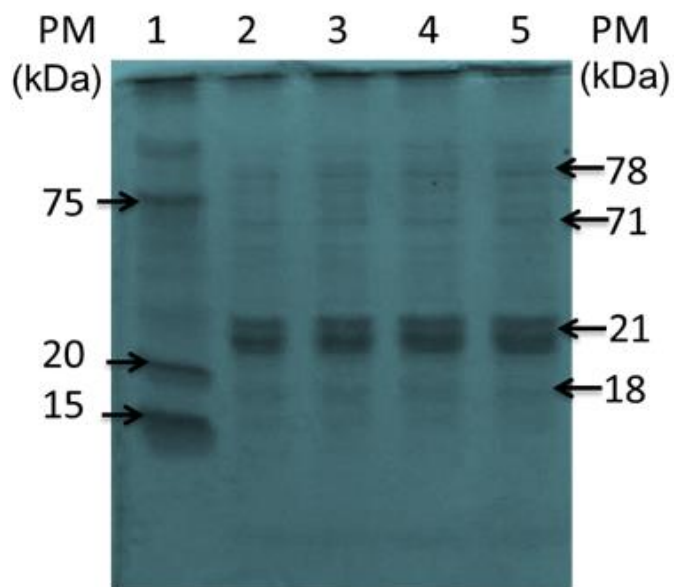


Figure S1. SDS-PAGE of *S. maxima*. Lane 1= Molecular marker; Lanes 2,3= *S. maxima* sample (10 $\mu\text{g/mL}$); Lanes 4,5= *S. maxima* sample (15 $\mu\text{g/mL}$).

Table S1. Antioxidant phytochemicals in *Spirulina maxima*

Total phenolics	Flavonoids	Carotenoids	Chlorophylls
mgGAE/g DW	mgCE/g DW	mg β -CE/g DW	mg/g DW
4.9 ± 0.22	0.9 ± 0.06	17.1 ± 0.37	41.9 ± 1.32

Dry weight (DW); gallic acid (GAE), catechin (CE) and β -carotene (β -CE) equivalents

References

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