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 [37], by atomic absorption spectrometry (Perkín Elmer Analist 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 [38].
5. *Antioxidant profile*. Total phenolic compounds were determined by the method reported by García-Galaz *et al.* [39], total flavonoids by the method reported by Álvarez-Parrilla *et al.* [40], and the total carotenoids/chlorophylls according to Jensen [41].

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 and average molecular weight of 18 and 21 kDa (**Figure S1**), perhaps corresponding to Chethana *et al* [42].
5. Major antioxidant phytochemical content in *S. maxima* is described in **Table S1**.

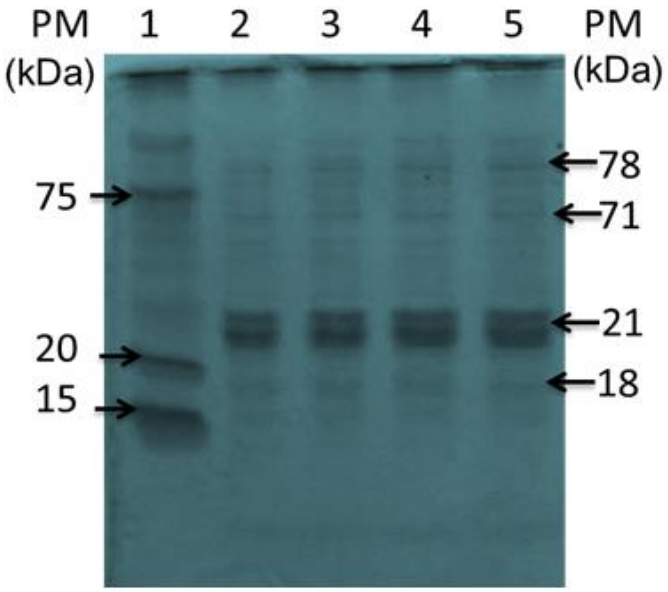

Figure S1. SDS-PAGE of *S. maxima*. Lane 1= Molecular marker; Lanes 2,3= *S. maxima* sample (10 µg/mL); Lanes 4,5= *S. maxima* sample (15 µg/mL).

Table S1. Antioxidant phytochemicals in *Spirulina maxima*

Total phenolics mgGAE/g DW	Flavonoids mgCE/g DW	Carotenoids mg β-CE/g DW	Chlorophylls 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