

SAFETY EVALUATION AND HYPOLIPIDEMIC EFFECTS OF AN ARTHROSPIRA PLATENSIS F&M-C256 ENRICHED DIET IN RATS

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Arthrospira platensis recognized as a nutritious food source with several promising health promoting activities. Male Sprague-Dowley rats fed -20% A. platensis F&M-C256 enriched diet for one month to investigate its potential hypolipidemic effects and the underlying mechanisms. AIN-76 was used as control diet. The diet supplemented with A. platensis F&M-C256 supplemented diet was well-tolerated, clinical observations and body weights were not affected. The A. platensis diet resulted in an increased water consumption and urine excretion, but not in raised Na⁺ plasma levels. No histopathological alterations of the kidney, increase blood pressure or renal oxidative damage were observed. The digestibility of A. platensis F&M-C256 diet was slightly lower compared to controls and this was accompanied by an increased feces production and fecal water content. The high DNA content of A. platensis F&M-C256 (4%) did not increase urinary uric acid excretion. No changes in organs weights (except liver) or histopathology were observed. Clinical biochemistry parameters did not indicate any renal or hepatic impairment. Total cholesterol and LDL were unchanged but a significant increase in HDL was found in the A. platensis F&M-C256 fed group. The reduction of liver weight was associated to significantly decreased plasma triglycerides, increased excretion of fecal lipids and to the induction of PPAR- α in the liver. A. platensis F&M-C256 is likely to be safe even at high dosage and it may represent a promising source of functional foods for the prevention of dyslipidemias.

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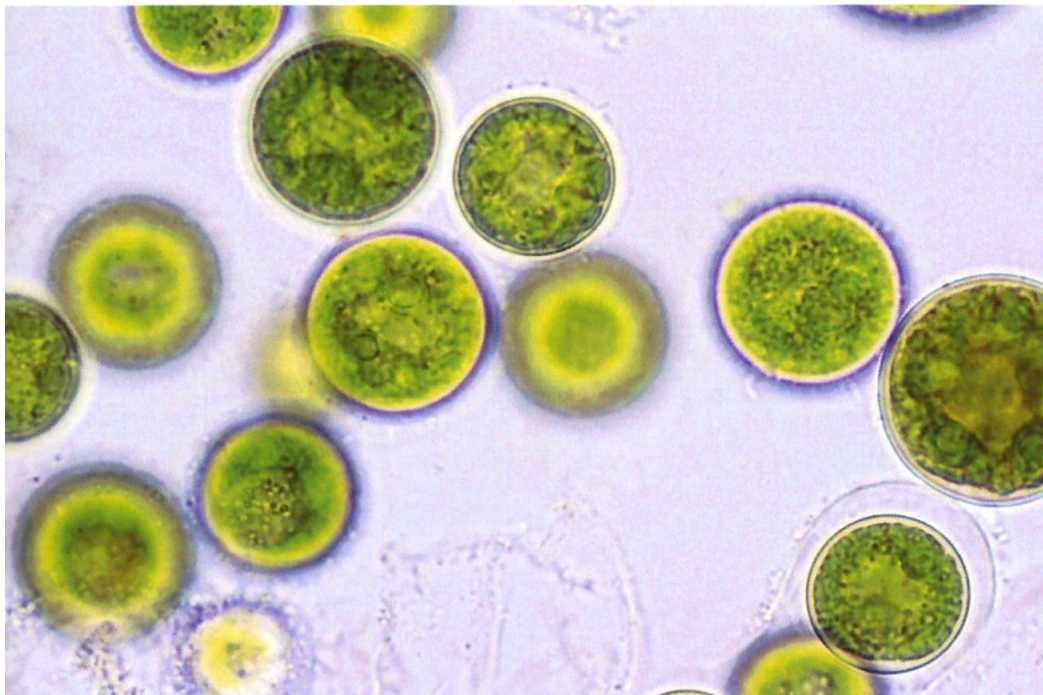
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