

## البحث الخامس

### The molecular and cellular defense mechanisms that adapt the blue green alga *Spirulina platensis* to cope to varying salinity

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المجلة المنشور بها البحث

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#### ABSTRACT

The molecular and mechanisms of cellular defense that enable the filamentous blue green alga *Spirulina platensis* to cope with salinity stress were investigated. Taken together, our results proved that, in order to cope with fluctuations in salinity, this alga is able to carry out a cellular strategy which finally will be assessed by some modifications in its biochemical reactions genetically or just physiological response. The results obtained cleared that the physiological response could be achieved from the increase in the synthesis of new stress proteins or hyper salt responsive proteins, diminishing nucleic acids, stability, disappearance and appearance of some major cell constituents and changes in the total antioxidative defense system alongside the genetical traits through measuring the isoenzymes electrophoresis pattern and the protein profile. The two way ANOVA proved that the different salinity levels significantly affected ( $P \leq 0.05$ ) the molecular mechanisms of *Spirulina platensis*.