In vitro Antigenotoxic Effect of Methanolic Extract of Microalgae-*Nannochloropsis sp*

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ABSTRACT

Microalgae strains are nowadays recognized as excellent sources of proteins, carbohydrates, lipids, and vitamins, to beh used and feed additives, for more than 40 years. However, the importance of microalgae in aquaculture is large because they start the food chain. The nutritional value, related to the biochemical composition, makes *Nannochloropsis oculate* well appreciated for feeding rotifers and fish hatcheries. In recent years, genotoxicity testing has become more and more important in the process of early screening for potential development compounds. In the present study, the methanolic extract of *Nannochloropsis oculate* was tested using *Salmonella typhimurium* TA98 in the absence of S9 using a standard plate incorporation assay. The mutagenicity assay was performed with five dose levels (0.312, 0.625, 1.25, 2.5 and 5.0 mg/ml) in the absence of metabolic activation system. Inhibition of background growth of non-revertant bacteria was not found at any of the five dose levels. The in vitro chromosomal aberration test is also carried out to assess the mutagenic potential that cause structural chromosomal aberrations in cultured mammalian cells. The results proved that the methanolic extract is antimutagenic and can be safe without inducing any genetic damage.

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