Molecular identification and biochemical constituent of oleaginous marine microalga *Nannochloropsis* (*Eustigmatophyceae)*, isolated from Mediterranean Sea, Eastern Harbor of Alexandria coast, Egypt.

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ABSTRACT

Screening of local isolated Egyptian marine microalgal species, with potential for aquaculture, biodiesel and biotechnology, are essential to achieve strong microalgal database with successful commercial applications. In this study, identification of *Nannochloropsis*, isolated from the eastern south of Mediterranean Sea, was carried out using morphological identification, scanning electron microscope and molecular technique (18S rDNA). Moreover, biochemical constituents (lipid, protein, and carbohydrates) were observed. Our promising isolate was carefully identified as *Nannochloropsis* in the light of obtaining specific genomic band with 982 bp. Alignment of specific band sequence confirmed our identification as *Nannochloropsis oceanica* strains LAMB0001, *N. oceanica* strains CCMP531 and *N. oceanica* strains IMET1 with 100 % of identity. On the other hand, total lipid, protein and carbohydrate of isolated and identified *N. oceanica* strains LAMB0001 were 37.71±4.27%, 22.81±3.71%, and 18.93±2.19% of dry weight, respectively, which make this strain considered a good source for either biodiesel production or aquaculture feedstock.

Keywords: *N. oceanica, biodiesel, aquaculture 18S rDNA, Egypt*