



## Use of Endogenous Promoters in Genetic Engineering of *Nannochloropsis Gaditana*

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**Summary:** The genome sequence and protocols for genetic manipulation for *Nannochloropsis gaditana*, a microalga that has high lipid and biomass production

**Description:** The potential use of algae in biofuel applications has received significant attention. However, none of the current algal model species are competitive production strains. This invention discloses a novel genome sequence and a method for genetic transformation of the marine microalga, *Nannochloropsis gaditana*. This particular microalga has highly favorable lipid yields, and is a promising production organism. Native promoters from *N. gaditana* for the transgenic expression of genes have been identified and tested. This method can be used to express both the native and foreign genes for improved production properties with regards to biofuels and other high-value products.

### Main Advantages of this Invention

- Robust producer of biomass and lipids
- Highly productive strain

### Potential Areas of Application

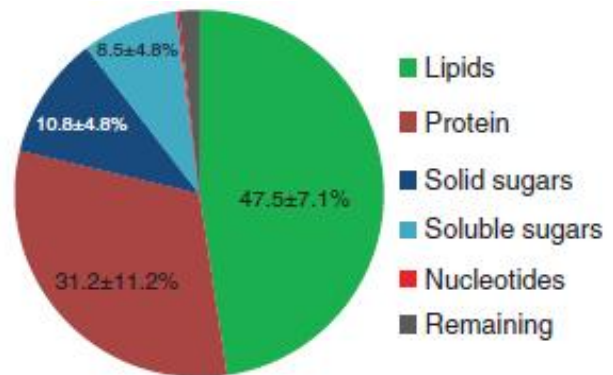
- Biofuel production
- Lipid production

**ID number:** 12007

**Intellectual Property Status:** US 8,709,766

**Publications:** R. Randoakovits *et al.* *Nature Comm.* 2012, 3, 1688.

**Opportunity:** We are seeking an exclusive or non-exclusive licensee for the implementation of this technology.



Collected biomass composition *N. gaditana* cultures grown in *f/2* medium at 50% seawater salinity.

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