



## ULVOLIGO

### ACTIVE COSMETIC INGREDIENTS EXTRACTED FROM SEA LETTUCE

Ulvaes (Ulva and Enteromorpha green algae) contain a cell-wall polysaccharide called ulvan which presents different biological activities of potential interest in therapeutic, nutraceutical and cosmetic applications.

The ULVOLIGO project involved using ulvans to develop an enzymatic process to produce oligosaccharides on a pilot scale. The resulting oligosaccharide fractions were purified and characterised in order to assess the potential application of these active ingredients in cosmetic formulas, as well as their action on the skin.

The project's outcomes were positive as regards extraction and characterisation of the ulvan and its degradation potential. A new strain and new enzymes were identified, which play a strategic role in the production of new active ingredients.

Batches of the oligo-ulvans (oligosaccharides) produced were incorporated into cosmetic formulas and their non-cytotoxicity confirmed. A DNA chip study was carried out to confirm the value of this type of molecule in skin applications. Following these initial results, tests were carried out on human skin explants to visualise the production of collagen as well as the anti-aging effects of these sulphate oligosaccharides.

The project achieved the goals set.

The tools and enzymatic processes were established on a pilot scale to assess the technical and economic constraints of producing these new oligosaccharide active ingredients. This meant that the latter could be positioned in terms of cost in relation to a range of bioactive compounds from natural plant sources.

As a result of the ULVOLIGO project, new enzymatic tools have been created for exploiting cell-wall polysaccharides in green algae. These enzymatic tools are relevant to the development of new active ingredients for applications both in the cosmetics field and in others such as health, food and agriculture.

#### Partners

##### COM\_PROJECTS\_CATEGORIE\_PARTNER\_ENTREPRISES

Bioeurope (groupe Solabia), Anet

##### Research centers

Centre d'étude et de Valorisation des Algues, Pleubian [[Project Developer](#)]  
CNRS-UPMC, Station Biologique

#### Funder

- Agence Nationale de la Recherche

#### Labelisation

23/11/2007

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1 172 000€