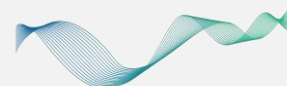


CYANOBIOSCIENCE

Cyanobacteria as a source of bioactive compounds with effects on obesity and obesity-related co-morbidities

MarineBiotech



PROJECT FACTSHEET

CALL 2 | DECEMBER 2016

ABSTRACT

An urgent demand for new anti-obesogenic compounds is present, and marine cyanobacteria promise to be an excellent source for natural-derived molecules and novel nutraceuticals. Some strains of cyanobacteria are commercially available for consumption due to their beneficial properties to human health. Preclinical studies have been performed in various animal models and demonstrated hypolipidemic activities in rats and mice, lowering hepatic cholesterol and triglyceride levels. In the proposed project, marine cyanobacterial strains of a culture collection will be screened for beneficial properties towards obesity and obesity-related co-morbidities (obesity, fatty liver disease, diabetes, appetite and hyperlipidaemia) and the chemical structure will be elucidated. By applying an innovative biotechnological platform, the interactions from oral administration to the blood stream will be analyzed, and with different target tissues *in vitro*. A proof of concept regarding the improvement of metabolism will be performed in a relevant physiological model. The general aim of the project is to develop novel nutraceuticals that have the potential to improve the quality of life for millions of people worldwide.



Ralph Urbatzka, Project Coordinator
CIIMAR - Interdisciplinary Center of Marine and
Environmental Research, Portugal

CONSORTIUM

Topic:

- Nutraceuticals

Marine biomass:

- Bacteria
- Microalgae

Source of marine biomass:

- Biobanks and repositories that are held within institutions/companies

Keywords:

Obesity, metabolic disorders, white and brown adipocyte differentiation, phenotypic screening, cell-based bioassays, zebrafish-based bioassays, cyanobacteria collection, nanotechnology platform, lab-on-a-chip, chemical proteomics

Total costs*: € 1.893.000

Funding granted*: € 1.289.000

Duration: 3 years (2017-2019)

* Exact amount may change after completion of national contracts

Name	Organisation	Country
Ralph Urbatzka	CIIMAR - Interdisciplinary Center of Marine and Environmental Research	Portugal
Susana Cristobal	Linköping University	Sweden
Siegfried Ussar	Hemholtz Center Munich	Germany
Finnur Eiriksson	ArcticMass ehf.	Iceland
Margreth Thorteinsdóttir	University of Iceland	Iceland

