MicroMBT

Discovery and training of microbial biocatalysts for biomass conversion using moving bed technology (MBT)

MarineBiotech

PROJECT FACTSHEET

CALL 1 | NOVEMBER 2015

ABSTRACT

A culture collection of >100 genome sequenced marine bacteria from the Arctic region, and the Moving Bed Technology (MBT) will be used as tools to increase the value of marine rest raw materials. The bacterial isolates have been screened for biocatalyst activities (e.g., PUFA production, lipases, proteases), and hence represent an excellent starting point for this project. Inspired by the RAS (Recirculating Aquaculture system) technology, the idea is to establish and optimize microbial communities on MBT biobeads. The bacterial communities will be specifically trained into microfactories for conversion of low value rest-raw material from the fish industry. The process will be analogous to RAS, where biofilters are used to convert waste into non-toxic products. Water and lipid phases from spent medium will be collected and screened for potential products. In summary, the robust MBT method will be used in a completely new area, to convert cheap marine biomasses into new products.

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Topic:

- Food
- Feed
- Materials
- Cosmeticeuticals (e.g. skincare)
- Health (e.g. food supplements)
- Pharmaceuticals

Marine biomass:

- Fish
- Crustacea
- Molluscs
- Macroalgae

Keywords:

Moving bed technology, Recirculating Aquaculture System, RAS, metagenomics, metabolomics, microbial factories, microbial communities.

Total costs*: € 1.832.446

Funding granted*: € 1.503.285

Duration: 3 years (2016-2018)

** Exact amount may change after completion of national contracts*

CONSORTIUM

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