Tapping the source of marine biotechnological potential – the research project coordinators' viewpoints

Three leading European projects have collaborated to produce a new marine microbes research update that explores the cross-over between the projects' respective objectives as they seek to exploit the virtually untapped resource of marine microorganisms, which account for 98 % of ocean biomass. The update features an insightful and candid knowledge exchange between the coordinators of the three projects, Frank Oliver Glöckner (MICRO B3), Lucas Stal (MACUMBA) and Marcel Jaspars (PHARMASEA).

MICRO B3 (Marine Microbial Biodiversity, Bioinformatics and Biotechnology) is working to improve Europe's capacity for bioinformatics and marine microbial data integration. MACUMBA (Marine Microorganisms: Cultivation, Methods for Improving their Biotechnological Application) isolates and cultivates a wide range of microbial strains in the laboratory, which are then screened for bioactive compounds. PHARMASEA (Exploring the Hidden Potential: Novel Bioactive Compounds) develops and commercialises bioactive compounds from marine organisms, and evaluates their potential as novel drug leads.

MICRO B3's Frank Oliver Glöckner outlined the importance of collaboration and the connection the three projects have: 'There needs to be some overlap, it is good to have these relationships. MICRO B3 is focused on marine biodiversity and metageneomics, by collecting DNA from the environment, MACUMBA is doing the cultivation and PHARMASEA is ready for the application. We can learn a lot from each other.'

Lucas Stal of MACUMBA welcomed the recent advances that have been made in marine microbiology but voiced concerns that our understanding of the area has not accelerated quickly enough: 'There have been so many developments that have revealed a huge amount of information that is still being explored. We have seen new nitrogen fixers that basically put the whole nitrogen cycle upside down again. On the other hand, I bought [Claude Ephraim] ZoBell's original book on Marine Microbiology and reading that book you see our understanding of the system has not evolved since ZoBell wrote this book in 1946.'

Marcel Jaspars from PHARMASEA discusses the integral role of industry partners in the projects: 'I think that having industry involved at all stages of the pipeline really helps. There are companies who were not necessarily working in the marine environment beforehand who are now convinced that there is something to be done and something of value to be gained by working in the marine and on these bigger projects.'

The Marine Microbes Research Update also features specific updates for each project, as well as an overview of the Marine Micr'Omics for Biotech Applications workshop, which took place in March.

The newsletter is available to download via the MACUMBA website: www.macumbaproject.eu

Notes for Editors

MICRO B3 is led by the Jacobs University Bremen, Germany and is a joint venture of 32 partners from 15 countries, three international organisations; one large private company and six SMEs. MICRO B3 is leading to a better understanding of the marine ecosystem and their genomic background, paving the way to novel biotechnological applications.

For more information about MICRO B3, please visit: www.microb3.eu. The Environmental & Marine Project Management Agency is the communication and dissemination partner for the project. For more information, please contact Johanna Wesnigk, email: j.wesnigk@empa-bremen.de

MACUMBA is coordinated by the Royal Netherlands Institute for Sea Research (NIOZ) and is a joint venture of 23 partner institutions from 11 EU countries. MACUMBA aims to improve the isolation rate and growth efficiency of marine microorganisms.

For more information about MACUMBA, please visit: www.macumbaproject.eu. AquaTT is the communication and dissemination partner for the project. For more information, please contact Marieke Reuver, email: marieke@aquatt.ie

PHARMASEA is coordinated by the University of Leuven, Belgium and the Marine Biodiscovery Centre at the University of Aberdeen, United Kingdom and is a joint venture of 24 partners from 15 countries. PHARMASEA focuses on the development and commercialisation of new bioactive compounds from marine organisms.

For more information about PHARMASEA, please visit: www.pharma-sea.eu. BIOCOM AG is the communication and dissemination partner from the project. For more information, please contact Annette Langbehn, email: press@pharma-sea.eu

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Marine Microorganisms: Cultivation Methods for Improving their Biotechnological Applications

MACUMBA

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