

Marbio, an analytical platform for natural products (UiT)

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„EU-OPENSSCREEN gives us the opportunity to connect with laboratories across Europe. The collaboration will enhance the opportunities for identifying novel bioactive natural products.“

At a glance

- Experience in screening complex mixtures (i.e. natural product extracts and fractions) for biological activity in biochemical and cell-based assays
- Dereplicating (identifying) known compounds in complex mixtures using chromatography and high-resolution mass spectrometry
- Isolation of bioactive natural products from crude extracts using a combination of classic techniques such as liquid-liquid extractions and flash chromatography, as well as state of the art mass guided fractionation based on HPLC
- Structural elucidation of complex natural products using high resolution MS as well as spectroscopic techniques such as NMR, IR and UV

Infrastructure and technical focus

- An analytical platform for biodiscovery
- A screening unit that tests for various applications: automated liquid handlers, multimode readers (absorbance, fluorescence, luminescence)
- A microbiology unit that isolate and cultivate marine microorganisms: shake incubators, automated colony picker
- A chemistry unit that identify and purify the bioactive natural products: Flash, HPLC, UPLC, LC-MS, MS-MS, IMS



Projects past and present

2020 - 2023 | SuReMetS Developing novel marine ingredients using underutilized material from fisheries as well as microalgae to target management of metabolic syndrome

2020 - 2022 | TackAML Targeting drug resistant acute myeloid leukemia with a next-generation FLT3 inhibitor

2018 - 2022 | Digibiotics Digital discovery of antimicrobial molecules from marine Arctic resources with reduced risk of triggering resistance ➔ [Link](#)

Our science in selected publications

Bioactivity of serratiochelin A, a siderophore isolated from a co-culture of *Serratia* sp and *Shewanella* sp
➔ [Microorganisms](#) 2020, 8(7), 1-17

Dendrobeaniamine A, a new alkaloid from the Arctic marine bryozoan *Dendrobeatia murrayana*
➔ [Natural Product Research](#) 2019, 34(14), 2059-2064

Kinase chemodiversity from the Arctic: The Breidfussins
➔ [Journal of Medicinal Chemistry](#) 2019; 62(22), 10167-10181

Metabolomic profiling reveals the N-acyl-tyrosine geodiatyrosine in extracts from the marine sponge *Geodia macandrewii* (Bowerbank)
➔ [Journal of Natural Products](#) 2016, 79, 5, 1285-1291

Further info and site-contact

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