

CAN MACROPHYTES FROM THE BALTIC SEA BE A NEW SOURCE OF NOVEL ANTIBACTERIAL COMPOUNDS?

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Marine organisms are a rich and still unexplored source of compounds with novel molecular structures and activities. In recent years many secondary metabolites from macrophytes were shown to possess different bioactivities such as antimicrobial, antiviral and antifungal [1] and thus they are promising agents for drug discovery and development. Some of the marine-derived compounds are either in preclinical or clinical trials [2].

Currently, emergence of microbial resistance to antibiotics has become a global problem and macrophytes might be a potential source of new therapeutics. Some promising results have already been obtained for organisms collected in tropical and subtropical ecosystems. However, there is still no information about the antibacterial activity of the macrophytes from the Baltic Sea. The aim of our work was to screen crude extracts from the Baltic macrophytes against antibiotic-resistant strains of Gram-positive and Gram-negative bacteria. Individuals from *Chara*, *Cladophora*, *Myriophyllum* and *Ulva* genera were collected in the Puck Bay (Gulf of Gdańsk). In order to extract a wide range of metabolites different solvents were used: 90% ethanol, water and isopropanol/hexane (1:1). Agar disc diffusion method was applied in search for antibacterial activity of the obtained crude extracts.

[1] R. De Felicio, S. De Albuquerque, M. C. M. Young, et al., Trypanocidal, leishmanicidal and antifungal potential from marine red alga *Bostrychia tenella* J. Agardh (Rhodomelaceae, Ceramiales), *Journal of Pharmaceutical and Biomedical Analysis*, **52**, 763–769 (2010).

[2] D. J. Newman, M. C. Gordon, Marine natural products and related compounds in clinical and advanced preclinical trials, *Journal of natural products* **67**, 1216–1238, (2004).