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S. Nalini, D. Sandy Richard, S.U. Mohammed Riyaz, G. Kavitha, D. Inbakandan

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ANTIBACTERIAL MACRO MOLECULES FROM MARINE ORGANISMS

S. Nalini, D. Sandy Richard, S. U. Mohammed Riyaz, G. Kavitha, D. Inbakandan*

Centre for Ocean Research, Col. Dr. Jeppiaar Research Park, Sathyabama Institute of Science and Technology, Chennai, 600119, India

ABSTRACT

Marine ecosystem comprises of microorganisms, plants, invertebrates and vertebrates which were rich source of diverse antimicrobial products, which were structurally unique belonging to a known class of macromolecules like peptides, terpenes, alkaloids and proteins, etc. Natural macromolecules from marine ecological niches are a promising source of antibacterial agents against several drug resistant strains of pathogenic microorganisms; whereas rest of the metabolites were derived from marine flora and fauna while some arise from microbes associated with living organisms. More than 30,000 natural macromolecules have been identified and reported from marine organisms, however only few macromolecules are being explored and validated.The discovery of marine antibacterial macromolecules plays a significant part in the field of drug discovery and biomedical research. Despite the fact that literatures were documented on the antifungal, antiviral, antimalarial and anticancer properties, this review exclusively highlights the different antibacterial natural macromolecules from marine sources like bacteria, fungi, sponge, algae, bryozoans, tunicates, corals, cnidarians, arthropods and echinoderm along with their mode of action.

Key words: Marine macromolecules, Antibacterial compound, Drug resistant pathogens, Drug discovery