

Antimicrobial Peptides A Survey From Marine Sources - Review

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ABSTRACT

Antimicrobial peptides (AMPs) are promising candidates in future therapeutics. In addition to their broad array of antimicrobial activity, these peptides show multiple initiation function to human health. Though there is a rapid success of antimicrobial expansion, against the pathogenic bacteria there is also evolution of resistance to predictable antibiotics calls for an amplified focus on the developing new antimicrobials. AMPs have peptides which are three dimensional structures with α -helix structures, β -sheets and cysteine residues, peptides enriched for modified amino acids; rare amino acid and ring structured amino acids. Various structures of AMPs have numerous properties which are antibacterial, antiviral, antifungal, insecticidal, antitumor, anticancer, and immunomodulatory functions. Most AMPs reacts with the inner or the outer membranes and can be cytotoxic due to instability in order to reach the target inside the cell. The interaction between the peptides and the biological membrane is modulated by the lipid components of the membrane. The marine environment is inadequately explored in terms of potential pharmaceuticals. It contains a tremendous organism diversity which would be a good source of novel Antimicrobial peptides. It is also known as host defence peptides or alarmins are among the innate immunity against infection in a range of organisms. Such biologically active chemical compounds like phenols, alkaloids, terpenoids, polyester and secondary metabolites are isolated from marine sponges, bacteria, dinoflagellates and seaweeds. This review will give an insight towards the bioactive peptides derived from marine organisms and their biological activities with potential applications in diverse vicinity towards human health care.