



Marine Siderophores: Structures, Biological Roles and Applications

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Message from the Guest Editor

Iron is a crucial nutrient in virtually all living organisms. Due to the very low bioavailability of free ion, one of the major strategies used by bacteria and fungi, and also plants, entailed the use of siderophores which are low molecular weight organic compounds that have extremely high affinity for ferric iron. They are excreted to form a ferric-siderophore complex which is then internalized by the appropriate transport mechanism. While the terrestrial siderophores have been extensively study, the structural features of most marine siderophores have not yet been determined. For pathogenic microorganisms, they are key virulence factors to enhance the infection disease. Iron uptake mechanism mediated by siderophores provides an ideal target for antimicrobial and therapeutic potential applications. Additionally to medical applications, they can be used effectively for numerous processes such as molecular imagining. Current research also focuses on understanding their ecological roles and on the development of their chemical synthesis to promote new biotechnological applications. As Guest Editor of this Special Issue, I invite you to provide recent advances of Marine Siderophores.





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Message from the Editor-in-Chief

During the past few decades there has been an ever increasing number of novel compounds discovered in the marine environment. This is exemplified by the robust preclinical and clinical pipeline that currently exists for marine natural products. *Marine Drugs* is inviting contributions on new advances in marine biotechnology, pharmacology, chemical ecology, synthetic biology, and genomics approaches related to the discovery of therapeutically relevant marine natural products. Our goal is to share your contribution in a timely fashion and in a manner that will be valued by the scientific community.

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