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Marine Ice-binding Proteins and Their Mimetics: Structure, Function, and Application

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Deadline for manuscript
submissions:

closed (30 April 2018)

Message from the Guest Editors

Dear Colleagues,

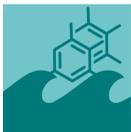
Ice-binding proteins are a group of proteins that have affinity for ice. Antifreeze proteins, the most commonly-known terminology for this kind of protein, are a misnomer since they are actually a subset of ice-binding protein and some, not all, ice-binding proteins function as a biological antifreeze in physiological concentrations. In this Special Issue, we would like to use “ice-binding proteins” to include any proteins that have affinity for ice, such as antifreeze proteins, ice nucleation proteins, and ice-interacting proteins.

Since the fish antifreeze proteins were first identified in the late 1960s, the number of ice-binding proteins identified from marine organisms has been continuously increasing. Currently, ice-binding proteins are found in bacteria, fungi, microalgae, and crustaceans inhabiting cold environments.

This Special Issue will cover recent results regarding the isolation and characterization of new marine ice-binding proteins, structure determination, and application of ice-binding proteins, mimetic peptides and/or peptoids in various fields, such as cryopreservation and hypothermic storage.



mdpi.com/si/9553



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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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