



toxins



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Multi-Omics Study of Marine Toxins

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Message from the Guest Editor

Recent advances in omic technologies make it possible to characterize, in detail, marine toxins and their biological effects on prokaryotic and eukaryotic organisms.

The purpose of this SI is to discuss various aspects of marine toxins' distribution and evolution, the effect of toxins on gene transcription, and changes in the cellular proteomes of prokaryotic and eukaryotic organisms by using “omics” technologies. Genomics and transcriptomics tell us about the structure, evolution and expression of the genome, proteomics provides information about the proteins present within cells, whilst metabolomics helps to identify and quantify the diversity of metabolites and metabolic networks within an organism and between different organisms. Competition between species for resources is the main factor structuring marine planktonic communities. Marine toxins can alter ecosystem processes, including primary production and nutrient cycling. It will be interesting to discuss the allelopathic functions of marine toxins because these molecules appear to target diverse and multiple physiological pathways in competitors.



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Special Issue



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Message from the Editor-in-Chief

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