



Marine Thraustochytrids: Biology, Chemical Ecology and Biotechnology

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Message from the Guest Editor

Thraustochytrids have attracted a great deal of biotechnological interest in the last few decades because of their ability to accumulate large amounts of triacylglycerides (TAGs), i.e., oils, rich in Ω 3 PUFAs and carotenoids. TAGs accumulated by thraustochytrids are peculiar in that they are rich in docosahexaenoic acid (DHA), a fatty acid with a plethora of beneficial effects on human health. DHA is poorly synthesized by animals and the sole source is open-ocean fish oil. Indeed, fish oil is rich in Ω 3 fatty acids because fish feed on zooplankton, which, in turn, feed on phytoplankton—the only organisms able to synthesize DHA. A shortcut is then possible, producing DHA (and other compounds) directly from algae. In the last few years, green biotechnology is gathering increasing interest, nevertheless our sparse knowledge in microalgal biology and metabolisms hampers a more efficient exploitation of such a valuable resource.

This Special Issue aims to collect papers on thraustochytrid biology, physiology, and chemical ecology, that are related to the biosynthesis and production of bioactive compounds in thraustochytrids, and biotechnology of thraustochytrid.





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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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