



Special Issue Reprint

Marine Anti-inflammatory Agents

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Acute inflammation is a highly regulated process, and its dysregulation can lead to the development of a chronic inflammatory state which is believed to play a main role in the pathogenesis of many diseases, including cancer. In recent years, the need to find new anti-inflammatory molecules has raised the scientific community's interest for marine natural products. In this regard, the marine environment represents a source for isolating a wealth of bioactive compounds. In this Special Issue, the reported products have been obtained from microalgae, sea cucumber, octopus, squid, red alga-derived fungus, cnidarians, hard-shelled mussel, and sponges.

This Special Issue of Marine Drugs covers both the in vitro and in vivo studies of marine agents with anti-inflammatory activities, in addition to clinical trials conducted in humans. Among the bioactive molecules reported in the papers are lipid compounds, such as glycolipids, which, for the first time, demonstrated their preventive effects in an inflammatory model of skin hyperplasia. In addition, beneficial effects of the carotenoid fucoxanthin were shown in the same model of skin hyperplasia, in UVB-induced damage and in a model of inflammatory pain. Moreover, frondanol, a lipid extract from *Cucumaria frondosa*, attenuated inflammation in an acute colitis model. Another paper evaluated the fatty acid compositions of lipid extracts from some common seafood organisms, reporting the highest level of omega 3 polyunsaturated fatty acids and the highest anti-inflammatory activity in the extracts from octopus and squid byproducts. Additionally, the anti-inflammatory effects of other marine compounds have been reported, including hirsutanol A, a sesquiterpene from the red alga-derived marine fungus *Chondrostereum* sp. NTOU4196, two alkaloids from the zoantharian *Zoanthus* cf. *pulchellus*, an α -D-glucan from a gill-less mussel (*Mytilus coruscus*), and the polyphenol pyrogallol-6,6-bieckol from an edible marine brown alga. Finally, this Special Issue is supplemented by three reviews focused on the occurrence of prostaglandins in the marine environment and their anti-inflammatory role; fish lipid emulsions used to improve patient outcomes in an inflammatory environment, such as postoperative; and



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improve patients' quality of life in an inflammatory environment, such as psoriasis, and the chemically induced production of compounds with anti-inflammatory activity from microalgae.

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