First Insights into Health Issues Related to Blooms of the Cyanobacterium *Lyngbya* Cf. *majuscula* in New Caledonia

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Cyanobacterial blooms are becoming more recurrent in the Pacific Ocean leading to health but also economic concerns among the local communities. Recently, closures of beaches have resulted from the yearly occurrence of blooms of a cyanobacterium related to *Lyngbya majuscula*. The project CYCLADES was recently supported by the Pacific Fund to give some insights into recent events of dermatitis associated with these blooms in the Drehu island of New Caledonia.

We report the first results on the chemical diversity identified in specimens overgrowing corals in the affected beach. New linear and cyclic modified peptides were isolated as major metabolites together with the known dolastatin 3. Additionally, some modified fatty acids are reported for the first time and all metabolites were biologically tested.

Marine-Derived Microorganisms as Potential Sources of Neurotrophin Mimetics for the Treatment of Neurodegeneration and Neuroinflammation

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Among neurodegenerative diseases, Amyotrophic Lateral Sclerosis (ALS) is a rare fatal heterogeneous disorder characterized by the progressive degeneration of motoneurones. ALS is a non-cell-autonomous disorder in which also astrocytes are affected and contribute to the motoneuronal death. ALS patients experience rapid deterioration in muscle function, with an average lifespan of 2–3 years after diagnosis. Currently, the most effective therapy extends lifespan only by a few months, thus highlighting the need for new and improved therapies.

In the framework of EuroNeurotrophin, marine microorganisms from the East Mediterranean basin will be investigated aiming at the discovery of new potential neurotrophin mimetics to treat neurodegenerative diseases. To this end, the organic extracts of 85 bacterial and 15 fungal marine-derived strains were submitted to a High-Throughput Screening (HTS) for the preliminary bioactivity evaluation and prioritization of extracts capable of inhibiting the cell death of cultured motoneurones. HTS was performed using the in vitro models of human astrocytes derived from a panel of patient biosamples carrying different ALS-associated mutations and neuronal co-cultures with end