Lipidomic approach to explore chemodiversity in *Acremonium* marine-derived strains

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Lipids are involved in cell recognition mechanisms, transmembrane signaling, growth and cell differentiation [1]. Therefore, they are considered as particularly interesting biologically active molecules. Interest in oleaginous microorganisms (yeasts, bacteria, algae and fungi) is currently increasing because they are considered as a renewable source of lipids through fermentation process. Among these organisms, marine-derived fungi represent an undeniable and under-explored source of potential lipids for health and nutrition [2,3]. Recent studies have reported the isolation of antitumoral cerebrosides – a class of glycolipids – from marine-derived fungi [4,5]. After a large screening within our marine-derived fungal collection, 13 *Acremonium* sp. strains were selected and grown on Dextrose Casein Agar medium. Lipid crude extracts were separated into lipid classes using open silica gel column chromatography, and the glycolipid-enriched fractions were profiled by GC-MS as-well-as by HPLC-IT-TOFMS using lipidomic approaches. Moreover, these fractions have biological activities when evaluated on KB cells. One strain, *Acremonium* sp. MMS540, showing the lowest IC_{50}, was chosen to conduct an OSMAC approach [6] using six different culture media. Promising activities (IC_{50} between 7 and 48 µg/mL) were observed for the six glycolipid-enriched fractions. Lipidomic approach was performed to correlate chemical diversity and biological activity.

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