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Investigating Anti-*Aspergillus* Activity in Extracts from Marine Actinobacteria

The genus *Aspergillus* with more than 300 species includes several opportunistic pathogenic fungi (*Aspergillus fumigatus*), toxin-producing fungi (*Aspergillus flavus*) and species used in the food industry (*Aspergillus niger*). *Aspergillus* species produce small spores called conidia with an average size of 2-3.5 µm, easily dispersed into the air, where they can remain for long periods of time, ending up being inhaled by humans and other animals, and causing aspergillosis. In the present work extracts from marine Actinobacteria (n=30) were screened against three *Aspergillus* species: *Aspergillus flavus* ATCC 204304, *Aspergillus fumigatus* ATCC 204305 and *Aspergillus brasiliensis* ATCC 16404. For that, the disk diffusion method (DD) was performed, following the CLSI guidelines. Among the three species, the most susceptible to the extracts was *A. brasiliensis*. After DD, and for the best extracts, the values of minimum inhibitory/fungicide concentrations (respectively MIC and MFC) were determined. For *A. flavus* and *A. fumigatus* and for all extracts, both MIC and MFC were higher than 250 µg/mL. For *A. brasiliensis* only two extracts stood out, one from Actinobacteria isolated from deep-sea sponge and one from the macroalgae *Laminaria ochroleuca*, with MIC and MFC around 15.62 µg/mL. These two extracts were selected to evaluate their impact on spore germination at the concentrations, ½ MIC, MIC and 2*MIC, but the extracts did not show any impact on conidia germination. The tested actinobacterial extracts exhibited some efficacy against *A. brasiliensis*. The other species (*A. fumigatus* and *A. flavus*) were less susceptible to the tested extracts.