

Screening for Antibacterial, Antifungal and Cytotoxic Agents in Three Hard Coral Species from Persian Gulf

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Abstract : Within the frame of a biodiversity and bioactivity study of marine macro organisms from the Persian Gulf, three hard coral species extracts were investigated for cytotoxic, antibacterial and antifungal activities against five human pathogenic microorganisms. All concentrations of extracts from three hard corals showed no antifungal activity towards the tested strains. In antibacterial assays, the hard coral extracts showed significant activity solely against *Staphylococcus aureus* with MICs ranging from 3 to 9 µg/ml. The highest antibacterial activity was found in the aqueous methanol extract of *Porites compressa* with an inhibition zone of 22 mm against *Staphylococcus aureus* at 18 µg/ml extract concentration. Methanol extracts from *Porites harriso* and *Porites compressa* exhibited only weak cytotoxic activities. It is important for future research to concentrate on finding the mechanisms employed by corals to defend themselves against invasion, the mechanism of infections and the type of chemical compounds in coral extracts that inhibit antibacterial growth or proliferation in underexplored areas such as the Persian Gulf.

Keywords : antibacterial, antifungal, cytotoxic, hard corals, Persian Gulf

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