

عنوان مقاله:

Antimicrobial Activity of Methanolic Gonad Extracts of Persian Gulf Sea Urchin on Gram-Positive Bacteria

محل انتشار:

بیست و چهارمین کنگره بین المللی میکروب شناسی ایران (سال: 1402)

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خلاصه مقاله:

BACKGROUND AND OBJECTIVESThe increasing spread of microbial resistance to current antibiotics has made the treatment of once easily treated small infections difficult. Marine animals and plants, along with their biological compounds, present a vast and accessible source for finding antimicrobial agents. In recent years, there has been an increase in studying the antimicrobial effects of marine organisms, such as echinoderms. Hence, this study was conducted to investigate the potential antimicrobial activity of the gonad extracts of sea urchin (*Echinometra mathaei*) found in the valuable biological reserves of the Persian Gulf.
MATERIALS AND METHODSThe study involved collecting *E. mathaei* from the Bushehr City coast of the Persian Gulf. The aqueous and Methanolic extracts were prepared from their gonads, and their antimicrobial effect was evaluated using the disc diffusion method and MIC and MBC assays against several clinical bacteria and their standard strains.
RESULTS AND DISCUSSIONThe methanolic extract of the gonad of *E. mathaei* showed significant antimicrobial activity against bacteria. This extract demonstrated growth halos between 7-11.5 mm in *Staphylococcus aureus* ATCC 6538, *S. aureus* clinical (WI), *Clostridium perfringens* clinical (GVS1), *Bacillus cereus* ATCC 11778, *Listeria monocytogenes* ATCC 9915, *Streptococcus sanguinis* ATCC 10556, *S. agalactiae* PTCC 1768. However, the examined extracts concentration prevented determining the MIC and MBC numbers.
CONCLUSIONThe study concludes that *E. mathaei* gonad extracts can be a potential source of antimicrobial compounds for gram-positive pathogenic and opportunistic bacteria

کلمات کلیدی:

Persian Gulf Sea Urchin, *Echinometra mathaei*, Antimicrobial Activity, Gram-Positive bacteria

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