Antibacterial effect of different extraction from organs Sea Urchin, *Echinometra mathaei* in Chabahar Beach

Arash Shakouri[1*]
Omoleila Javanmard Kamy Ghazy Mahalleh[2]
Fariborz Soheili [3]

1.Departments of Marine Biology, Faculty of Marine Sciences, Assistant Professor of Chabahar Maritime and Marine Science University, Chabahar, Iran.
2. Graduate student of Marine Biology, Faculty of Marine Sciences, Chabahar Maritime and Marine Science University, Chabahar, Iran.
3. Departments of Marine Biology, Faculty of Marine Sciences, Educator of Chabahar Maritime and Marine Science University, Chabahar, Iran.

[*]**Corresponding author**
Aarash220@yahoo.com

Received date: 2014.12.02
Reception date: 2014.04.10

Abstract
Echinoderms, a group of marine invertebrates, are a rich source of antibacterial compounds with high activity mechanism. The purpose of the present study was, the determination of antibacterial effect using different Extractants from sea urchin, *Echinometra mathaei*, on some pathogenic bacterial strains in Chabahar in 1393. After sampling and transport of samples to the laboratory, animals were dissected, and Organs Shell, Spines, Gonad were Separated. After washing by freeze-dryer samples were dried and then were milled, Extraced using ethyl acetate, chloroform and methanol. The extracts were tested for activity against *Staphylococcus aureus*, *Enterococcus faecalis*، *Escherichia coli* and *Klebsiella pneumonia*. Disc diffusion and dilution the culture medium methods were used for test hypothesis. Analysis of the results was performed by One-way ANOVA. The results showed that the antibacterial effect of different extracts of various organs are significantly different ($P < 0.05$). The results of the test Disc diffusion agar showed the most antibacterial effect of the chloroform extract Spines and Shell on gram negative bacteria E.coli. The test results Minimum Inhibitory Concentration (MIC) and Minimum Bactericidal Concentration (MBC) Determined that chloroform Extracts of the ethyl acetate extracts are better antibacterial effect. The chloroform extract of Spines and shell most antibacterial effect showed the bacteria E.coli organs Spines and Shell Echinometra mathaei, have significant antibacterial activity that requires further study and purification of the active components. The findings suggest that these compounds of sea urchin could serve as a potential source of new antibacterial substances to replace chemical agents.

Keywords: Antibacterial effects, Sea urchin, *Echinometra mathaei*, Disk diffusion, MIC.