

Isolation and molecular identification of bacteria producing antimicrobial metabolites Anzali wetland and sediments

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Abstract: Background and Aim: Marine microorganisms produce metabolites with antimicrobial activity against pathogenic bacteria. The purpose of this study was to isolate aquatic bacteria and evaluate their antibacterial activity against human pathogens. **Materials and Methods:** Samples were collected the west of the Caspian Sea. The isolated samples were purified and their effect on some pathogenic pathogens was measured using wells. The DNA of the strains was extracted and amplified and sequenced using 16s rRNA gene universal primers by polymerase chain reaction. **Results:** Two gram negative bacteria isolated *Pseudomonas putida* and *Stenotrophomonas* were found to have antibacterial activity against *Escherichia coli*, *Bacillus subtilis* and *Staphylococcus aureus*. **Conclusion:** The ability of these aquatic bacteria to control the growth of drug-resistant pathogens can be used as a serious threat to human health. Also, by optimizing the production of antimicrobial agents in them and purification in industrial conditions, the quality of antimicrobial extract purified them can be increased for use in various industries such as the pharmaceutical industry.

Keywords : **Keywords:** Marine bacteria, Antimicrobial activity, Bioactive compounds.

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