

عنوان مقاله:

Isolation and identification of Aeromonas species from leeches' gut and its antagonistic effects on human pathogens

محل انتشار:

بیستمین کنگره بین المللی میکروب شناسی ایران (سال: 1398)

تعداد صفحات اصل مقاله: 1

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خلاصه مقاله:

Introduction and objectives: The continued increase in infectious diseases has led to the extensive use of commercially available antibiotics that has been proving to be a challenging phenomenon of antibiotic resistance, This phenomenon is described as the future bomb of human society. Several studies have been reported on the assessment of the antimicrobial effects of living organisms on human pathogenic bacteria, the purpose of this study was to isolate and identify the biochemical and molecular characteristics of the Aeromonas species isolated from the Caspian leech intestine, and to investigate the antimicrobial effects on human pathogens by disk diffusion and well methods. **Materials and Methods:** In this study, intestinal secretions from indigenous Caspian leech were cultured on Ryan s artificial environment at 30 ° C for 24 hours. The dark green colonies with the black center were identified by biochemical methods. For molecular identification DNA from the desire colonies were extracted by GeneAll kit and the product was performed by 16sr DNA pcr sequencing method and the resulting sequence was aligned by chromas software. The latex from identified colonies were obtained by centrifugation with 14000 rpm at 4 ° C for 20 minutes. Antibacterial effects from latex were evaluated against human pathogens including clinical E. coli , Pseudomonas aeruginosa with PTCC 1811, Klebsiella pneumonia with PTCC 9310 and Staphylococcus aureus with PTCC 1764 by disc diffusion and well methods. **Results:** Biochemical and molecular identification confirmed the presence of Aeromonas hydrophila from leeches gut extract. in the disc diffusion method the inhibition zones respectively against Staphylococcus aureus, Pseudomonas aeruginosa, E. coli , Klebsiella pneumonia were 15mm , 13mm , 9mm , 0mm .In the well-being method , the inhibition zones respectively against Staphylococcus aureus , Pseudomonas aeruginosa, E.coli , Klebsiella pneumonia were 15mm , 12mm ,7mm 0mm**Conclusion:** According to the results, the bacterial latex from isolated bacteria was effective against a wide range of gram-negative and positive bacteria. As well as is seemed disc diffiusion method in contrast to well method to be effective for avaluation of antibacterial activity. Accordingly, in the future production of natural antibacterial from animal sources can be replaced synthetic .antibiotics

کلمات کلیدی:

disk diffusion, leech, 16sr DNA sequencing, latex, aeromonas hydrophilla

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