

عنوان مقاله:

Genetic variation among Escherichia coli isolates from human and calves by using RAPD PCR

محل انتشار:

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خلاصه مقاله:

BACKGROUND: Various strains of Escherichia coli (E. coli) are known as major causes of intestinal and extraintestinal infections in humans and various animal species. Molecular methods are important for the identification of bacterial isolates and nucleotide sequence variations, as well as information on tracking bacterial agents related to the outbreaks, the frequency of the bacterial genetic structure, and the evolution of microbial populations. **OBJECTIVES:** The purpose of the present study was to evaluate the efficiency of the RAPD method to differentiate E. coli strains. **METHODS:** In this study, 110 isolates of E. coli were analyzed by the RAPD PCR method using two 10bp oligonucleotides. These strains were isolated from humans with urinary tract infections and neonatal calves affected by diarrhea or septicemia. **RESULTS:** Data analysis showed that 87.5% of human E. coli isolates were correctly classified in the human host group, while 94.3% of calf E. coli isolates were correctly placed in calf groups. It also demonstrated that 100% and 93.3% of isolates were accurately assigned to diarrheic and septicemic calf groups, respectively. **CONCLUSIONS:** Genetic variation analysis indicated that the percentage of polymorphism among E. coli isolates from humans with urinary tract infections, diarrheic calves, and septicemic neonatal calves were 54.71%, 61.22%, and 62.5%, respectively.

کلمات کلیدی:

E. coli, genetic variation, RAPD PCR

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