عنوان مقاله:

Cloning of Catalytic Domain of Exotoxin A from Pseudomonas Aeruginosa

محل انتشار:

مجله علمی پژوهشی دانشگاه علوم پزشکی زنجان, دوره 18, شماره 71 (سال: 1389)

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خلاصه مقاله:

Background and Objective: Antibody against Pseudomonas aeruginosa exotoxin A can be used in immunotherapy together with antibiotics to treat acute burn patients. Exotoxin A is one of the virulence factors in Pseudomonas aeruginosa that comprises of three domains, binding domain, translocation and catalytic domain. The purpose of this study was to produce recombinant domain of the catalytic part of this microorganism in order to produce antibody against it. Methods and Materials: Pseudomonas aeruginosa samples were isolated from burn patients hospitalized in Mousavi Hospital, Zanjan, Iran and Pseudomonas aeruginosa species were identified by Biochemical tests. Bacteria genomic DNA was extracted and exotoxin A gene determined by PCR. Catalytic domain of exotoxin A was amplified by PCR. Products and plasmid extracts was digested by restriction enzymes. Subsequently PCR products and plasmids transformed into E. coli BL۲۱ (DE۳). Clones containing gene of interest was determined by PCR, restriction enzyme and sequencing. Results: The sequence homology of the catalytic domain of exotoxin A was compared with that of the published gene data bank. The results showed a complete homology between our gene species and the published genome in data banks. Conclusion: The results of this study showed that about ۹۰% of the isolated bacteria contained exotoxin A and there was a sequence homology between our species and published gene data banks.

کلمات کلیدی:

Key word: Pseudomonas aeruginosa, Cloning, Exotoxin A, Domain catalytic