عنوان مقاله:

Cloning and expression of the gene encoding beta toxin of Clostridium perfringens type B into E. coli strains BL21 ((DE3) and RosettaTM (DE3

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: So far, 231 specious of Clostridia were classified which at least 15 specious are cause of disease in human and animals. Clostridium perfringens is an important specious that produces four major toxin. Beta toxin is produced by C. perfringens types B and C, which is cause of fatal in animals. The aim of this research was cloning and expression of recombinant beta toxin of C. perfringens type B in Escherichia coli strains. Materials and Methods: C. perfringens type B were cultured into selective medium and genomic DNA was extracted using Phenol-Chloroform method. Then beta toxin was amplified using specific primers. In next stage, it was ligated in pET22b (+) and cloned into E. coli strains BL21 (DE3) and RosettaTM (DE3). Then Recombinant protein was expressed after IPTG induction. Expression recombinant gene was optimized using induction of different concentrations IPTG. Then its expression was evaluated using SDS-PAGE technique. Finally, the recombinant protein was purified via Ni-NTA and was analyzed using western blot. Results: Recombinant protein was expressed after IPTG induction in strain RosettaTM (DE3) and can improve the expression of the recombinant beta toxin. However it was not expressed in E. coli strain BL21 (DE3). Conclusion: The result of this study showed that E. coli strain RosettaTM (DE3) can improve the expression of the gene encoding beta toxin.

کلمات کلیدی:

Cloning, expression, beta toxin, Clostridium perfringens, E. coli

لینک ثابت مقاله در پایگاه سیویلیکا: