عنوان مقاله:

Expression and Antigenic Evaluation of VacA Antigenic Fragment of Helicobacter Pylori

محل انتشار:

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خلاصه مقاله:

Objective(s): Helicobacter pylori, a human specific gastric pathogen is a causative agent of chronic active gastritis. The vacuolating cytotoxin (VacA) is an effective virulence factor involved in gastric injury. The aim of this study was to construct a recombinant protein containing antigenic region of VacA gene and determine its antigenicity. Materials and Methods: The antigenic region of VacA gene was detected by bioinformatics methods. The polymerase chain reaction method was used to amplify a highly antigenic region of VacA gene from chromosomal DNA of H. pylori. The eluted product was cloned into the prokaryotic expression vector pET۳۲a. The target protein was expressed in the Escherichia coli BL۲۱ (DE۳) pLysS. The bacteria including pET۳۲a-VacA plasmids were induced by IPTG. The antigenicity was finally studied by western blotting using sera of ۱۵ H. pylori infected patients after purification. Results: Enzyme digestion analysis, PCR and DNA sequencing results showed that the target gene was inserted correctly into the recombinant vector. The expressed protein was purified successfully via affinity chromatography. Data indicated that antigenic region of VacA protein from Helicobacter pylori was recognized by all ۱۵ patient's sera. Conclusion : Our data showed that antigenic region of VacA protein can be expressed by in E. co.li. This protein was recognized by sera patients suffering from H. pylori infection. the recombinant protein has similar epitopes and close antigenic properties to the natural form of this antigen. Recombinant antigenic region of VacA protein also seems to be a promising antigen for protective and serologic diagnosis .

کلمات کلیدی:

Antigenic region Cloning Epitopes Helicobacter pylori VacA cytotoxin