عنوان مقاله:

Designing and Development of a DNA Vaccine Based On Structural Proteins of Hepatitis C Virus

محل انتشار:

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خلاصه مقاله:

Background: Hepatitis C virus (HCV) infection is one of the most prevalent infectious diseases responsible for high morbidity and mortality worldwide. Therefore, designing new and effective therapeutics is of great importance. The aim of the current study was to construct a DNA vaccine containing structural proteins of HCV and evaluation of its expression in a eukaryotic system. Methods: Structural proteins of HCV (core, E1, and E2) were isolated and amplified from JFH strain of HCV genotype 2a using PCR method. The PCR products were cloned into pCDNA3.1 (+) vector and finally were confirmed by restriction enzyme analysis and sequencing. The eukaryotic expression of the vector was confirmed by RT-PCR. Results: Recombinant vector containing 2241bp fragment of HCV structural genes was constructed.The desired plasmid was sequenced and corresponded to 100% identity with the submitted sequences in GenBank. RT-PCR results indicated that the recombinant plasmid could be expressed efficiently in the eukaryotic expression system. Conclusion: Successful cloning of structural viral genes in pCDNA3.1 (+) vector and their expression in a eukaryotic expression system facilitates the development of new DNA vaccines against HCV. A DNA vaccine encoding core-E1-E2 antigens was designed. The desired expression vector can be used for further attempts in the development of vaccines.

کلمات کلیدی:

HCV, Structural proteins, DNA Vaccine