

Antigenicity and immunogenicity of the immunodominant region of hepatitis B surface antigen displayed on bacteriophage T7

Abstract

The immunodominant region of hepatitis B virus (HBV) located in the viral small surface antigen (S-HBsAg) elicits virus-neutralizing and protective antibodies. In order to develop an easy and inexpensive method to produce this region without the need for extensive purification, amino acid residues 111-156 of S-HBsAg were fused to the C-terminal end of the 10B capsid protein of T7 phage. Western blotting and ELISA confirmed the expression of the recombinant protein on the surface of the phage particles. The recombinant phage exhibited the antigenic and immunogenic characteristics of HBsAg, illustrating its potential as an immunological reagent and vaccine. © 2005 Wiley-Liss, Inc.

Keyword: HBsAg; HBV; Immunodominant region; Immunology; Phage display; T7 phage