Abstract

The ultimate goal of this project is to identify peptides that mimick the immunodominant epitopes of the Neisseria meningitidis (NM) to be used as the basis for development of the peptide vaccine for NM. To achieve this goal, monoclonal antibodies (mAbs) specific for NM were generated from serogrup B- and Y- immunized mice. Western blot analyses revealed that the specificities of the mAbs generated in this study almost cover all surface antigens including capsular polysaccharide, outer membrane proteins, lipopolysaccharide, and pilus indicating that the epitopes of these antibodies are of valuable in vaccine development. Affinity selection of phage display random peptide libraries with the purified antibodies followed by plaque immunoscreening, recombinant phages (phagotopes) bound to antibody have been obtained. The specificity of individual phagotopes was confirmed by inhibition ELISA. Up to date, specific phagotopes have been obtained for three monoclonal antibodies. The possibility of using these phagotopes as a vaccine will be investigated in the project of the third year.

Keywords：Neisseria meningitides；phage display；monoclonal antibody