Production and characterization of monoclonal antibodies of H5N3 avian influenza virus

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Avian Influenza viruses (AIV) infect a wide variety of species of animals and often cause serious diseases (1). The traditional method for identifying influenza field isolates is the hemagglutination inhibition (HI) test. The HAI test is reliable, but needs specialized expertise in reading the results of the test. Neutralization antibody is critical for immune response against virus infection, and the antibody binding sites on influenza virus HA are essential for virus neutralization (VN) (2). The purpose of this study is to prepare monoclonal antibodies against H5N3 AIV and to use these monoclonal antibodies to develop a rapid method for detection of AIV (3). BALB/c mice were immunized with H5N3 virus and then the splenocytes from the immunized mouse were collected and fused with NS-1 myeloma cells. The hybridomas secreting antibodies against AIV were screened by hemagglutination inhibition, dot immunoblotting, Western blotting and immunofluorescence assay. Two hybridomas, which secreted specific antibodies to AIV, were selected among 3000 hybridomas in five fusion experiments. Cloning of these established hybridomas was carried by the limiting dilution method in order to confirm their monoclonality. After two times cloning, two monoclonal antibodies were purified.

References: