

Monoclonal antibody: production and its applications on biomedical research

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Abstract

Monoclonal antibody is an important tool for biological research, medical diagnostics and treatments. At the Biomedical Technology Research Center, various technologies for production of monoclonal antibodies were established. These include the production of antibodies by IgY technology, DNA immunization, Bead immunization, Immunoprecipitation based immunization. By the established technologies, various monoclonal antibodies can be effectively produced in our research center.

In the immune system, leukocyte surface molecules are demonstrated to be involved in the regulation of immune responses. Detail characterizations of these molecules, therefore, lead to a better understanding of immune functions and development of strategy and drug for immune-modulation. In our research center, various monoclonal antibodies specific for leukocyte surface molecules were produced. The produced antibodies were further exploited in basic research on leukocyte surface molecules.

We have also applied the produced monoclonal antibodies for development of immunodiagnostic kits for several diseases such as thalassemia and tuberculosis. Some developed immunodiagnostics have been transferred for commercialization.