

PREPARATION OF ANTI-IDIOTYPIC ANTIBODIES FOR THE DIAGNOSIS OF BOVINE LEUKEMIA

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Introduction. The basic components of the diagnostic test systems are antigens and specific antibodies. The main objective of developing express tests for the diagnosis of bovine leukemia virus (BLV) is to obtain a virus antigen drug, which is very time-consuming to prepare. This problem can be solved by producing anti-idiotypic antibodies that have a chemical structure identical to that of the viral antigen and does not require large expenditures to manufacture [1, 2].

Materials and methods. As an object of our study we used previously obtained monoclonal antibodies (mAb) obtained from *Mus musculus* Mab/2F9-p24 hybrid cell strains, specific to p24 BLV polypeptide antigens. Firstly, we conducted a series of immunizations with preparations obtained by conjugating mAb to the carrier that enhances the immune response (colloidal gold and bovine serum albumin). Hybridization of the cell was carried out according to the standard method. Screening of hybrid cells was performed by enzyme immunoassay. Selection of hybrid cells was carried out on a HAT selective medium ("Sigma", USA).

Results and discussion. As a result of immunization the titers of specific antibodies in the blood of mice ranged from 1:400 to 1:25600 by ELISA. In a further work, we used an animal with the highest antibody titer in the blood. During the operation, we conducted hybridization of X63/Ag 8.653 myeloma cell line with lymphocytes of immune mice twice. Thus, the greatest immune response can be obtained by using a drug carrier as bovine serum albumin. As a result of double hybridization of myeloma cells and immune lymphocytes, we obtained 10 hybridomas having the ability to grow in selective HAT medium.

Conclusions. We have obtained 2 clones of hybrid cells (1F2 and 2G8), capable of producing anti-idiotypic antibodies that mimic the epitope of the p24 polypeptide BLV. The resulting products can be used in the construction of various serological test-kits for the diagnosis of bovine leukemia.

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References.

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