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Development of the test kit for detection of antibodies to paramyxoviruses based on hemagglutination inhibition assay

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Newcastle disease (ND) is the most important infectious viral disease of poultry. The world-wide economic loss from it is 2 to 3 billion USD per year. The industrial poultry farming is rapidly developing in Ukraine. Geographically Ukraine is located in the center of Europe, on the crossing of migration routes of various wild birds; the main natural reservoir of ND agents. Using of vaccines is the most radical method of preventing the ND. It is necessary to control the intensity of post-vaccination immunity and the timing of revaccinations. OIE recommends hemagglutination inhibition (HI) test to assess the level of antibodies following vaccination. Based on HI assay develop and create a test kit for detection of antibodies to ND virus (NDV). We prepared hemagglutinating antigen from strain "LaSota" using embryonated SPF fowl eggs. In order to ensure a high degree of specificity for the antigen, special attention was given to a stabilizer for freeze-drying. The specific hemagglutination activity of the obtained antigen amounted to 10-11 log₂. The test was performed using the 4HA units of the antigen. Positive control serum activity was in the range of 7- 9 log₂. Negative control serum did not give results more than 2 log₂. The estimation of the quality indexes of the components of the diagnostic test-kit was performed using harmonized methods. The use of the developed HI test kit for detection of antibodies to NDV helps to maintain the disease-free status of the Ukrainian poultry industry with regard to ND.

Biography

Oksana F Blotska has completed her PhD from Institute of Veterinary Medicine, Kyiv, Ukraine. She is the Head of the Division of Check and Industrial Virus Strains Support of the Department of Biotechnology and Control of Quality of Viral Preparations of The State Science Control Institute of Biotechnology and Strains of Microorganisms. She has published more than 30 papers in reputed journals.

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