

ЯАР-22

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Pilot phase in the development of vaccines against Marek's disease

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Biotechnology

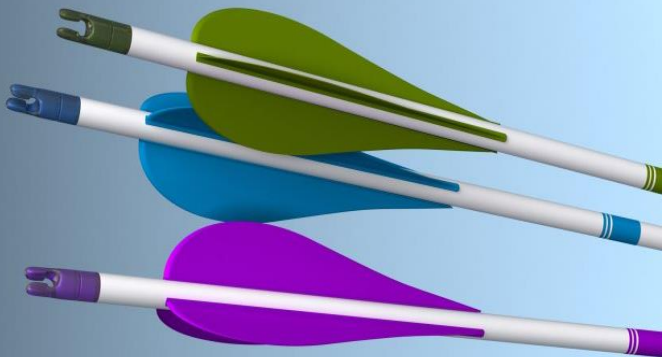
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Marek's disease

- Marek's disease (MD), a lymphoproliferative disease of chickens, is a serious problem for the poultry industry. The causative agent, an oncogenic DNA-containing alphaherpesvirus, has the ability to persist both in the host and in the ecosystem. In this case, the virus evolves, which leads to the emergence of more virulent populations of *Marek's disease virus (MDV)* pathotypes.
- In addition to virulent strains of MDV of the first serotype, there are two non-oncogenic ones in nature: the second serotype is the *chicken herpes virus (CHV)* and the third serotype is the *turkey herpes virus (THV)*.

Aim of the work





Aim of the work was


to conduct

- ❖ a theoretical
- ❖ and experimental

substantiation of the possibility of developing new vaccine preparations against Marek's disease.



Research results

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- Dry and reconstituted with saline ultrasonic lysates of cells infected with *CHV* and *THV* were subjected to thermal denaturation.
 - The specificity, antigenic and infectious activity of heat-treated and untreated cell lysates were determined by ELISA and titration on cell cultures of SPF chicken embryos.

- In drug samples of turkey herpes virus, dry-heat-treated at 100°C, the infectivity of the virus sharply decreased after 15 minutes (by 98%) and completely disappeared after 30 ms.

- Structural components of the antigen cross-reacting in ELISA with an antibody to *MDV* and with an antibody to *THV* were completely preserved during the entire period of heat treatment.



- Therefore, with this method of exposure to dry preparations, viral antigens reacting with an antibody to *MDV* and an antibody to *THV* proved to be thermostable.