



Live-attenuated freeze-dried vaccine for immunization against Newcastle Disease and Avian Infectious Bronchitis

INTRODUCTION

Respiratory diseases are among the most devastating diseases in the poultry industry; in most cases, these are the result of more than one pathogen involved. Among several avian viruses with tropism of the respiratory tract, infectious bronchitis virus (IBV) and Newcastle disease virus (NDV) are the most important viruses compromising poultry health worldwide.¹

Due to the single stranded nature of their genome, these two viruses are able to evolve rapidly, leading to high genetic variability in circulating virus strains. This is even more pronounced in the case of IB, where recombination contributes to genetic variation. IB and ND affect poultry birds of all ages and breeds, but the degree of disease varies based on the age of the birds, with IB being more severe in young chicks, while the severity of ND is more pronounced in chickens of all ages.²

The immunology of domestic birds has been well studied and numerous vaccines have been developed against the two viruses. Most of these vaccines are either inactivated vaccines or live attenuated vaccines. Inactivated vaccines typically induce weaker cellular immune responses and require priming with live vaccines.²

Using various strategies such as combination of live attenuated and inactivated vaccines or the development of combined IB/ND vaccines, will lead to effective programs that contribute to poultry health and food security in many countries on a global scale.²

COMPOSITION (before inactivation)

- Live attenuated Newcastle Disease Virus LaSota [ME/NDV3] strain \geq 6.0 \log_{10} EID₅₀/dose.
- Live attenuated Infectious Bronchitis Virus classic H120 GI-1 [Eg/IBV2] strain \geq 3.5 \log_{10} EID₅₀/dose.

TARGET SPECIES

Chickens.

INDICATIONS

For active immunization of commercial chickens against Newcastle Disease and Avian Infectious Bronchitis Virus.

VACCINATION PROGRAM

Birds can be vaccinated from first day of age onwards, as per advice from your poultry veterinarian.

IMMUNITY

- Onset of immunity: 2 weeks after primary vaccination.
- Duration of immunity: until 6 weeks after single dose.

STORAGE PRECAUTIONS

- Store and transport refrigerated (+2°C to +8°C).
- Do not freeze.
- Store in a dry place protected from direct sunlight.
- Do not use this product after the expiry date.
- Shelf life after first opening the bottle: 3 hours.

VACCINE PREPARATION

- Vaccine shall be reconstituted with sterile water free from disinfectant and/or antiseptic.
- Shake the reconstituted lyophilisate until complete resuspension before administration.
- Do not administer less than the recommended dosage.
- Follow the label instructions for appropriate dilution.

WITHDRAWAL

Zero days.







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PRESENTATION

MEVAC™ LASUTA + H120 is packed and presented in vials containing a lyophilisate pellet for reconstitution (1000 doses).

ADMINISTRATION

The vaccine should be administered via the eye drop, spray, or drinking water routes.

- Eye drop: Reconstitute 1,000 doses into 3 to 5 ml of nonchlorinated drinking water and subsequently dilute it into 30-50 ml of non-chlorinated drinking water. Use a calibrated dropper to distribute 30-50 µl-drops. Place one drop of the vaccine solution on the eye of each bird, allow the drop to spread, and release the bird.
- Spray vaccination: Spray the vaccine solution above the birds using a sprayer device capable of producing micro-droplets (mean diameter 80-100 µm). Make sure that birds are closely confined together during spraying. The ventilation system of the poultry house should be inoperative during the spray administration.
- <u>Drinking water</u>: When using tap water, treat all water with skimmed milk powder at a rate of 2.5 g per liter to neutralize traces of chlorine. Distribute the vaccine solution at the time of use to birds. Birds should be deprived of water for two hours before vaccination.

References

- Malik YS, Patnayak DP, Goyal SM. Detection of three avian respiratory viruses by single-tube multiplex reverse transcriptionpolymerase chain reaction assay. J Vet Diagn Invest. 2004.
- Ke et al 2021. Towards Improved Use of Vaccination in the Control of Infectious Bronchitis and Newcastle Disease in Poultry: Understanding the Immunological Mechanisms. Vaccines 2021, 9(1), 20; https://doi.org/10.3390/vaccines9010020

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