MEFLUVAC™ H9+ND7 0.3

TRANSBOUNDARY CONTROL

Inactivated bivalent vaccine for immunization against
Low Pathogenic Avian Influenza H9N2 subtype and Newcastle Disease

INTRODUCTION

The Newcastle Disease Virus (NDV) classifications include pathotype categorization and genotype distinctions. The utilization of sequencing and phylogenetic analysis of the F gene enables the classification of NDV strains into varied genotypes. Genotypes I and II primarily represent vaccine strains, while the more virulent NDVs are clustered within Genotypes III to X. Intriguingly since the 1990s, Genotype VIII expanded across Asia, South Africa, and parts of Europe; while Genotype VII NDV strains have been frequently reported in Europe, China, the Middle East, and South Africa.[1,2,3,4]

Concurrently, infections resulting from the low pathogenic avian influenza (LPAI) subtype H9N2 continue to pose a substantial threat to poultry populations in Asia, the Middle East, and Africa.[5] The implications of H9N2 virus infections are far-reaching, leading to economic losses across various poultry sectors, including layers, breeders, and broilers. The impact includes a significant decline in egg production, up to 20%, which can be increased by potential co-infections with pathogens like Infectious Bronchitis Virus (IBV), Newcastle disease virus (NDV), and bacterial agents like *E. coli* and *Mycoplasma*. These concurrent infections have the potential to amplify overall losses.[6,7,8] Furthermore, the H9N2 virus induces profound immunosuppression and damage to immune organs in chickens, thereby interfering with the production of antibodies against specific vaccines such as NDV. This viral strain is also linked to performance deterioration, evident through reduced feed conversion rates (FCR) and body weight. The cumulative effects underscore the widespread and adverse consequences associated with H9N2 infections within the poultry industry.[9,10]

COMPOSITION (before inactivation)

- Inactivated Low Pathogenic Avian Influenza H9N2 subtype [A/Chicken/Egypt/ME543V/2016(H9N2)] belonging to G1-lineage, ≥ 8.5 log10 EID_{50} / dose.
- Inactivated Newcastle Disease Virus recombinant genotype VII strain [rgNDV1/ME.G7/2017] ≥ 8.5 log10 EID_{50}/dose.

TARGET SPECIES

Chickens.

INDICATIONS

For primer or booster vaccination to protect commercial poultry against Low Pathogenic Avian Influenza H9N2 subtype and Newcastle Disease.

VACCINATION PROGRAM

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

WITHDRAWAL

Zero days.

DOSAGE

The vaccine dose (0.3 mL/bird) should be administered subcutaneously in the lower part of the neck or intramuscularly in the thigh or breast muscles.

The vaccine may occasionally separate into two layers on storage. This in no way affects its potency, but the vaccine should be shaken vigorously before and during use to ensure good emulsification.
Do not use MEFLUVAC™ H9+ND7 0.3 if you notice critical irreversible separation of the emulsion.

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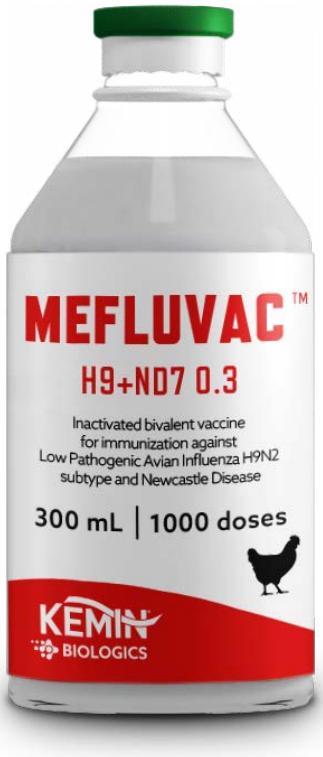

PRESENTATION

MEFLUVAC™ H9+ND7 0.3 is packed and presented in 300 mL (1000 doses) polyethylene terephthalate (PET) bottles.

ADMINISTRATION

Before use, the vaccine should be shaken well to ensure proper mixing. Sterile injection equipment should be used to avoid contamination.

- Subcutaneous injection: applied in the lower part of the neck. The needle should be inserted just under the skin in a direction away from the head and in a straight line with the neck.
- Intramuscular injection: when applied in the breast muscles the needle must be inserted with a 45° angle to avoid intraperitoneal injection.

For optimal booster effects, the birds should be primed with live NDV vaccines.

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.

References

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7. *Sultan, H.A.et. al. Protective Efficacy of Different Live Attenuated Infectious Bronchitis Virus Vaccination Regimes against Challenge with IBV Variant-2 Circulating in the Middle East. Front. Vet. Sci. 2019.*
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