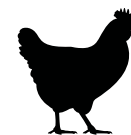


MEFLUVAC™

H9 N2

TRANSBOUNDARY
CONTROL



Inactivated monovalent vaccine for immunization against Low Pathogenic Avian Influenza H9N2

INTRODUCTION

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.¹ 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.^{2,3,4} 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.^{5,6}

COMPOSITION (before inactivation)

- Inactivated Low Pathogenic Avian Influenza H9N2 subtype [A/Chicken/Egypt/114940v/NLQP/2011/H9N2] belonging to G1-lineage, $\geq 8.0 \log_{10} \text{EID}_{50} / \text{dose}$.

INDICATIONS

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

RECOMMENDED VACCINATION PROGRAM

- Broilers: One single dose between day of hatch and 7th day.
- Layers, breeders and grandparent stock: 3 to 4 dose vaccination program.
 - 1st dose within first 2 weeks of age.
 - 2nd dose 3- 4 weeks after 1st dose.
 - 3rd dose 8-10 weeks after 2nd dose.
 - 4th dose according to laboratory monitoring.

IMMUNITY

- Onset of immunity: 3 weeks after the first vaccination.
- Duration of immunity: conditioned to the vaccination scheme established for the local epidemiological situation.

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 the vaccine if you notice critical irreversible separation of the emulsion.

TARGET SPECIES

Chickens.

MEFLUVAC™

H9 0.3

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PRESENTATION

MEFLUVAC™ H9 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.

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

1. Guan Y, et al. (2000) H9N2 influenza viruses possessing H5N1-like internal genomes continue to circulate in poultry in southeastern China.
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3. 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.
4. Monne et al. H9N2 influenza A virus circulates in H5N1 endemically infected poultry population in Egypt. *Influenza Other Respir. Viruses* 2013.
5. Qiang F, Youxiang D. The effects of H9N2 influenza A on the immune system of broiler chickens in the Shandong Province. *Transbound Emerg Dis.* 2011 Apr;58(2):145-51. doi: 10.1111/j.1865-1682.2010.01192.x. Epub 2011 Jan 4. PMID: 21205254.
6. Ellakany, H.F., Goda, A.R., Elbestawy, A.R. et al. Interaction between avian influenza subtype H9N2 and Newcastle disease virus vaccine strain (LaSota) in chickens. *BMC Vet Res* 14, 358 (2018).

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