VAXXON® ND-FLU

Protection right from the start

- **Effective protection against Newcastle disease and Avian Influenza, strain H9N2**
- **Convenient, easy and safe to use**

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Protection right from the start

Newcastle disease (ND) is caused by virulent strains of avian paramyxovirus type 1 (APMV-1) of the genus Avulavirus which belongs to the family Paramyxoviridae. The ND virus (NDV) has shown to be able to infect over 200 species of birds, but the severity of the disease varies with both the host and the strain of the virus. Even APMV-1 strains of low virulence may induce severe respiratory diseases when exacerbated by the presence of other organisms or by adverse environmental conditions. Since its recognition in 1926, ND is regarded as being endemic in many countries (www.oie.int).

Avian influenza (AI) is a highly contagious viral disease affecting several species of food producing birds (chickens, turkeys, quails, guinea fowl), as well as pet birds and wild birds. Occasionally mammals, including humans, may contract Avian Influenza.

There are many AI virus strains, which are usually classified into two categories, according to the severity of the disease in poultry:

- low pathogenic (LPAI) strains, which typically cause few or no clinical signs in poultry.
- and highly pathogenic (HPAI) strains, which can cause severe clinical signs and potentially high mortality rates among poultry.

Avian Influenza has captured the attention of the international community over the years, with outbreaks in poultry having serious consequences on both livelihoods and international trade in many countries. In addition, although most avian influenza viruses do not infect humans, some, such as avian influenza H5N1 and H7N9, are well known to the public because of their implication in serious and sometimes fatal infections in people (www.oie.int).

H9N2 subtype avian influenza viruses (AIVs) have been isolated from various species of wild birds and domestic poultry in the world, and occasionally transmitted to humans. [1] In outbreaks of H9N2 AI reported in Iran, the isolate was characterized in the laboratory as of low pathogenicity (LP). However, mortality in the field approached 65% on some broiler farms. Lesions were identified only in the respiratory system, particularly the trachea and the bronchi. [2]

H9N2 remains endemic across Asia, mainly limited to outbreaks in domestic land-based poultry, but overshadowed as a pandemic threat by H5N1 bird flu, which has spread from Asia into Africa and Europe. However, there is evidence of interspecies transmission of H9N2 from land-based poultry to mammals, such as pigs and swine. Further evidence of an expanded mammalian host range includes efficient replication of H9N2 in mice without adaptation. H9N2 has already caused mild respiratory disease in humans in Hong Kong and mainland China in 1999 and 2003. [3]

Among low pathogenicity AIV (LPAIV), Eurasian H9N2 have been endemic in the domestic poultry population across North Africa, the Middle East and Asia since its emergence in China during 1994. These viruses are responsible for severe economic losses due to declined egg production and moderate to high mortality in broiler-type chickens. [4] In various outbreaks, inactivated influenza virus vaccines have been used successfully. [5]

Sources:

1 - Dongdong Wang, Jingjing Wang, et All - Characterization of avian influenza H9N2 viruses isolated from ostriches (Struthio camelus) - Scientific Reports volume 8, Article number: 2273 (2018)

2 - H. Nili and K. Asasi - Avian Influenza (H9N2) Outbreak in Iran - Avian Diseases, 47(s3):828-831. 2003

3- Paul E Alexander, et all - Is H9N2 avian influenza virus a pandemic potential? - Can J Infect Dis Med Microbiol. 2009 Summer; 20(2): e35–e36.

4- Klaudia Chrzastek, et all - Characterization of H9N2 avian influenza viruses from the Middle East demonstrates heterogeneity at amino acid position 226 in the hemagglutinin and potential for transmission to mammals - Virology. 2018 May;518:195-201

5- Bahl, A. K., and B. S. Pomeroy. Efficacy of avian influenza oil-emulsion vaccine in breeder turkeys. J. Am. Vet. Med. Assoc. 171:1105. 1977

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Indications
Active immunization against Newcastle Disease and Avian Influenza A.

Active Substance
Inactivated Newcastle Disease Virus;
Inactivated Avian Influenza virus A, subtype H9N2.

Administration Route
Intramuscularly to the chest or subcutaneously in the lower part of the neck.
Broiler: 0.2 ml per chick at day old subcutaneously.
Layers & Breeders: 0.2 ml per bird from day old up to 3 weeks. Revaccinations at 8 weeks and between 12-16 weeks are recommended with a dose of 0.5 ml intramuscular.

Poultry Category
Chickens (broilers, layers and breeders).

Age of Vaccination
Broilers: day old chicks.
Layers: from day old up to 3 weeks. Revaccination recommended at 8 weeks and between 12-16 weeks.

Presentation
500 ml bottles – equal to 1000 doses.

Shelf life
Packaged product for sale: 24 months.
After opening: 10 hours.

Storage conditions
Store and transport at a temperature between + 2 ° C and + 8 ° C.
Do not freeze.
Keep in the original package in order to protect from light.

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Version 4
2024.12
120855

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