RINNOVAC™

ELI-7

Monovalent recombinant freeze-dried live virus vaccine containing NDV GII VG/GA strain and NDV GVII virus

RESPIRATORY INTEGRITY

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 which represent the primary vaccine strains, while the more virulent NDVs are clustered within Genotypes III to X. Intriguingly, in the 1990s the emergence of novel Genotypes VII and VIII expanded to Asia, South Africa, and parts of Europe; while Genotype VII NDV strains have been frequently reported since the 1990s from Europe, China, the Middle East, and South Africa.[1,2,3,4]

Inhalation and ingestion of virus-containing droplets are the main routes of infection. During the course of infection birds can also excrete large amounts of virus through their respiratory aerosols and contaminated feces.[5]

A robust biosecurity program addressing all risk factors involved is required to achieve effective control against all viral pathogens involved. This general prophylaxis should be based on flock isolation, facility sanitation, auditing and continued monitoring. Complementary to biosecurity, systematic vaccination of day-old chicks is crucial to build active immunity since early age against endemic Newcastle Disease virus across endemic geographies worldwide. Antigenic similarity is found among all NDV genotypes, and all viruses are expected to cross-protect against challenge with each other. Thus, immunological stimulation can serve as a basis for vaccination with live low virulence NDV vaccines to protect against virulent NDV (vNDV).[6]

COMPOSITION

- Live recombinant Newcastle Disease Virus [rNDV:VG/GA-F7] [rgNDV1/ME.G7/2017] strain ≥ 6.5 $\log_{10}$ EID_{50}/dose.

TARGET SPECIES

Chickens.

INDICATIONS

Active immunization in chickens from the first day of age to reduce clinical signs and mortality associated with Newcastle Disease.

VACCINATION PROGRAM

Birds can be vaccinated from one day of age onwards, as per advice from your poultry veterinarian. For optimal booster effects in long production cycles, the birds should be primed with live NDV vaccines.

IMMUNITY

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

WITHDRAWAL

Zero days.

CONSIDERATIONS

- The vaccine virus can spread to unvaccinated birds, however this does not induce any sign of disease.
- Live NDV may cause conjunctivitis in humans, therefore protective disposable gloves and safety glasses should be worn when handling the vaccine.

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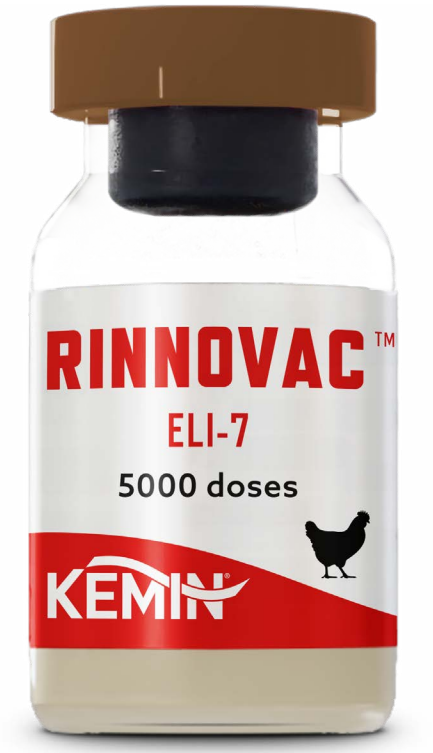

ADMINISTRATION

The vaccine should be reconstituted and administered either via eye drop, spray, or drinking water routes.

- Eye drop: Dilute 1,000 doses into 3 to 5 ml of non-chlorinated drinking water and subsequently subdilute this 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 spray 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.
- Drinking water: 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.

PRESENTATION

RINNOVAC™ ELI-7 is packed and presented in vials containing a lyophilisate pellet for reconstitution (1,000, 2,500 and 5,000 doses).

STORAGE PRECAUTIONS

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

References

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2. *Herczeg J, Wehmann E, Bragg R, Travassos Dias PM, Hadjiev G, Werner O, Lomniczi B. Two novel genetic groups (VIIb and VIII) responsible for recent Newcastle disease outbreaks in Southern Africa, one (VIIb) of which reached Southern Europe. Arch Virol. 1999;144:2087–2099.*
3. *Ke GM, Liu HJ, Lin MY, Chen JH, Tsai SS, Chang PC. Molecular characterization of Newcastle disease viruses isolated from recent outbreaks in Taiwan. J Virol Methods. 2001;97:1–11.*
4. *Liu H, Wang Z, Wu Y, Zheng D, Sun C, Bi D, Zuo Y, Xu T. Molecular epidemiological analysis of Newcastle disease virus isolated in China in 2005. J Virol Methods. 2007;140:206–211.*
5. *Dimitrov et al (2019). Updated unified phylogenetic classification system and revised nomenclature for Newcastle disease virus. Infection, Genetics and Evolution. Volume 74, October 2019, 103917.*
6. *Sultan et al (2021). Efficacy of the Newcastle Disease Virus Genotype VII.1.1-Matched Vaccines in Commercial Broilers. Vaccines (Basel). 2022 Jan; 10(1): 29.*

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