



Innovax®-ND-ILT: Efficacy against virulent Newcastle Disease challenge following combined administration with Nobilis® Rismavac

INTRODUCTION

Innovax®-ND-ILT is a dual HVT construct vaccine that stimulates immunity against Marek's disease (MD), Newcastle disease (ND) and infectious laryngotracheitis (ILT).

Early studies have demonstrated the efficacy and onset of immunity of this vaccine against virulent strains of both ND and ILT. Lifelong-immunity, however, depends upon the genetic stability of the HVT construct in the bird.

HVT is a herpesvirus that is not completely eliminated from the bird after vaccination. The virus remains in the bird, continuously stimulating immunity against MD, ND and ILT as long as the original HVT construct is genetically stable.

The duration of immunity against ND in birds vaccinated with Innovax-ND-ILT was used to demonstrate the ability of the vaccine to protect birds for as long as 60 weeks when Innovax-ND-ILT was administered in combination with Rispens (Marek's serotype 1) vaccine.



KEY POINTS



Duration of immunity following vaccination with an HVT construct vaccine depends upon genetic stability of the construct in the bird. A long duration of immunity is critical to long-lived birds such as commercial layers or broiler breeders.



Many long-lived birds are also vaccinated with a Marek's disease Serotype 1 vaccine (CVI-988 Rispens strain) to ensure protection against very virulent Marek's disease challenge.



Innovax®-ND-ILT demonstrated 60 weeks' duration of immunity against virulent ND (Texas GB) challenge when administered by subcutaneous injection in combination with Nobilis® Rismavac.

The combination with Rispens is often essential for very virulent Marek's disease protection in long-lived flocks.

STUDY DESIGN

SPF leghorn chickens were vaccinated subcutaneously at one day of age with a combination of Innovax-ND-ILT (approximately 2000 PFU) and Nobilis Rismavac (Serotype 1 Marek's disease, SVI-988 Rispens strain at approximately 1000 PFU). A placebo group served as unvaccinated controls.

At nine weeks, 50 weeks and 60 weeks of age, 32 to 35 chickens in each vaccinated group, and 12 to 15 chickens in the placebo group, were inoculated with 0.2 ml of the NDV Texas GB challenge virus ($10^{4.5}$ EID₅₀) by intramuscular (IM) injection in the breast muscle.

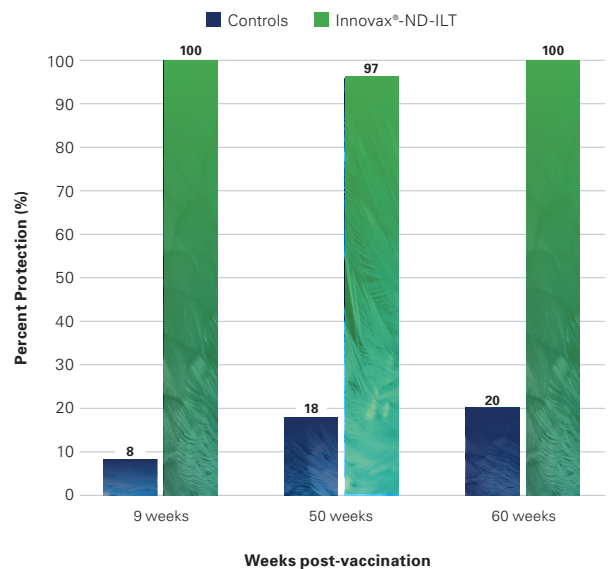
The challenged chickens were observed daily through 14 days post-challenge for clinical signs of Newcastle disease including poor coordination, paralysis, and/or death. In this study, the Newcastle disease Texas GB challenge is considered valid if at least 70% of the placebo inoculated, challenged chickens develop clinical

signs of Newcastle disease, while vaccine efficacy is considered satisfactory if at least 75% of the chickens in the vaccinated groups remain free of clinical signs of Newcastle disease.

RESULTS

Results are summarised in Figure 1.

Figure 1. Percent protection against virulent Newcastle disease challenge (Texas GB strain)



CONCLUSION

Innovax®-ND-ILT demonstrated protection against virulent ND challenge through 60 weeks post-vaccination when used in combination with Nobilis® Rismavac.

MSD study: Data on file.

Innovax®-ND-ILT contains cell-associated live recombinant turkey herpesvirus (strain HVT/NDV/ILT), expressing the fusion protein of Newcastle disease virus and the glycoproteins gD and gI of infectious laryngotracheitis virus: $10^{3.3} - 10^{4.3}$ PFU. **POM-V.** Nobilis® Rismavac contains live cell associated Marek's disease virus strain CV1988 $\geq 3.0 \log_{10}$ TCID₅₀. **POM-VPS.** Further information is available from the SPC, datasheet or package leaflet. MSD Animal Health UK Ltd. Registered office Walton Manor, Walton, Milton Keynes MK7 7AJ, UK. Registered in England & Wales no. 946942. Advice should be sought from the medicine prescriber.
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