

A MORE BALANCED SOLUTION

THE NEW BENCHMARK FOR PROTECTION, WELFARE & PRODUCTIVITY





www.msd-animal-health.co.za



Innovax[®] ND-ILT is a dual-construct HVT vaccine that provides long-term protection against three of the most important infectious diseases that threaten commercial poultry operations:

NEWCASTLE DISEASE

Affects livability, broiler performance and causes plant rejects. It can restrict international trade, as well as cause production losses in egg-producing birds, leading to further economic harm.

INFECTIOUS LARYNGOTRACHEITIS

An acute, highly contagious, herpesvirus infection characterised by severe dyspnoea, coughing, and rales. Affected birds are anorexic and inactive resulting in reduced productivity. After recovery birds become latent carriers.

• MAREK'S DISEASE

Present in most poultry facilities, this herpesvirus attacks the nerves, which can produce lameness, cause tumours, mortality and egg production losses in egg-laying birds.

IND-ILT DESIGNED WITH THE FUTURE IN MIND

This brochure covers:

- The benefits of using Innovax[®] ND-ILT.
- The latest trial data.
- How next-generation sequencing can help to identify and eliminate problems.



INNOVAX-ND-ILT





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WHY CHOOSE INNOVAX® ND-ILT?



3-IN-1 PROTECTION FROM A SINGLE INJECTION





SUPERIOR, LONG-TERM DISEASE PREVENTION¹



NO SHEDDING



REACTION-FREE¹



INNOVAX[®]ND-ILT PERFORMANCE

STABILITY AND SAFETY

• Phenotype and genotype are stable

- Master seed virus (MSV) vaccine back-passaged 5 times in chickens.
- Genetic stability determined by PCR and sequencing.
- Phenotypic stability determined by monoclonal or polyclonal antibodies in an immunofluorescence antibody (IFA) assay.

IFA POSITIVE PLAQUES/TOTAL (%)			
STOCK	ILTgD	ILT gl	NDV-F
Master Seed	121/121	147/147	137/1137
Virus (MSV)	(100 %)	(100 %)	(100 %)
MSV + 5 passages	90/90	107/107	92/92
	(100 %)	(100 %)	(100 %)

The MSV + 5 passages is satisfactory if the sizes of the amplified overlapping PCR fragments from the MSV and MSV + 5 passages are the same, and nucleotide and amino acid sequences are similar. Phenotypic stability is satisfactory if at least 90 % of plaques demonstrate expression of HVT, NDV-F, ILT gD and ILT gl in MSV + 5 passages.

- MSV was inoculated *in-ovo* or subcutaneously at >10 times the field dose.
- Vaccine did not affect hatchability of 18 day old embryos.²



- No significant difference in average body weights of birds receiving MSV or placebo.
- Innovax[®] ND-ILT did not have an adverse effect on final weight.
- No reversion to virulence after 5 back-passages.
- Innovax[®] ND-ILT has the same tissue tropism and host range (chicken, turkey, quail) as parent strain.

 Innovax[®] ND-ILT does NOT shed to contact controls. It cannot seed a house or spread to neighboring farms. Missed birds stay missed, so vaccination accuracy is needed.²
Data on file.

EFFICACY





 SPF eggs vaccinated *in-ovo* at 18 days' embryonation or SPF chicks vaccinated subcutaneously (SC) at day 1 with < 3 000 plaque forming units (PFU) of vaccine.

 Birds challenged intratracheally at four weeks (as per 9 CFR) with virulent challenge ILT Lot 96-3 provided by the USDA.

 Birds were evaluated over 10 days for clinical signs of infectious laryngotracheitis or death.

 SPF eggs vaccinated *in-ovo* at 18 days' embryonation or SPF chicks vaccinated subcutaneously (SC) at day 1 with < 3 000 PFU of vaccine.

- Birds challenged at four weeks by intramuscular injection (as per 9 CFR) with virulent Texas GB challenge strain.
- Birds were evaluated over 14 days for clinical signs of Newcastle Disease or death.

NEWCASTLE DISEASE EFFICACY





MAREK'S DISEASE EFFICACY

- SPF eggs vaccinated *in-ovo* at 18 days' embryonation or SPF chicks vaccinated subcutaneously (SC) at day 1 with
 < 3 000 PFU of vaccine.
- Birds challenged at 5 days of age by intraperitoneal injection (as per 9 CFR) with virulent GA 5 Marek's disease strain.
- Birds were evaluated over 49 days for clinical signs and gross lesions of Marek's disease.

INNOVAX[®]ND-ILT PERFORMANCE

COMPATIBILITY WITH NOBILIS® RISMAVAC

- SPF eggs vaccinated *in-ovo* at 18 days' embryonation or SPF chicks vaccinated subcutaneously (SC) at day 1 with a commercial dose of Innovax[®] ND-ILT and a commercial dose of Nobilis[®] Rismavac Rispens (serotype 1) Marek's disease vaccine. Combined results (*in-ovo* and SC) shown.
- MDV (RB1B strain) challenge was performed in the European Union (EU) according to EU Pharmacopoeia procedures.









NO AFFECT ON HATCHABILITY



DEMONSTRATED PROVEN EFFICACY



DOES NOT SHED, CANNOT SEED A HOUSE OR SPREAD TO A NEIGHBOURING FARM





NO REVERSION TO VIRULENCE



COMPATIBLE WITH NOBILIS® RISMAVAC

VIRAL FLEX-SEQ®

Viral Flex-Seq[®], powered by innovative genetic testing technology, is the ultimate tool for Innovax[®] ND-ILT vaccine verification and disease outbreak characterisation.



Viral Flex-Seq® testing provides accurate genetic identification of unique vaccine markers



Cutting-edge component to the MSD Animal Health Convenience Program.

- ✓ Accessible to single farms or multinational integrators.
- ✔ First-in-class technology utilising the power of next-generation sequencing (NGS).
- ✔ Performance benchmarking based on an industry-leading database.

MORE precise than serology. **MORE** sensitive than rtPCR. **MORE** powerful than Sanger sequencing.



choose novation

ALWAYS **PRODUCING MORE**

REACTION FREE

• NO SHEDDING

TRIPLE PROTECTION IN A SINGLE INJECTION



For more information contact your local MSD Animal Health representative or visit www.innovax-vaccines.com

REFERENCES:

Innovax[®] ND-ILT SPC.

- MIDVAX ND-ILI SFC. MSD Animal Health Technical Services Bulletin #1022. HVT Dual Construct Vaccine: Safe and efficacious protection (control/aid in control) of MD, ND & ILT. Linda Gergen, Stephanie Cook, Brooke Ledesma, Wade Cress, Deb Higuchi, Diane Counts, Julio Cruz-Coy, Colin Crouch, Phillip Davis, Ian Tarpey & M. Morsey (2018): A double recombinant herpes virus of turkeys for the protection of chickens against Newcastle, Infectious Laryngotracheitis and Marek's diseases, Avian Pathology, DOI: 10.1080/03079457.2018.1546376.

INNOVAX® ILT Reg. No. G4093 (Act 36/1947)

Each ampoule contains per dose at least 2248 PFU of live Herpes virus of turkey strain HVT/ILT-138 in the cell-associated form. The vaccine contains traces of gentamycin. INNOVAX® ND-ILT Reg. No. G4491 (Act 36/1947)

Each dose of reconstituted vaccine (0.2 m/ for subcutaneous use or 0.05 m/ for in ovo use) contains:

Active substance: Cell-associated live recombinant turkey herpesvirus (strain HVT/NDV/LT), expressing the fusion protein of Newcastle Disease virus and the glycoproteins gD and gI of Infectious Laryngotracheitis virus: 103,3 to 104,3 PFU1. ¹PFU – Plaque Forming Units

NOBILIS® RISMAVAC Reg. No. G2444 (Act 36/1947)

Each dose contains at least 3,0 log¹⁰ TCID₅₀ serotype 1, strain CVI-988, in the cell associated form, as a suspension of virus containing SPF chicken embryo fibroblasts.

REGISTRATION HOLDER

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