POLIMUN IBD+

Belongs to POLIMUN GUMBORO vaccines line - solution for various type of epizootic situation with Infectious Bursal Disease

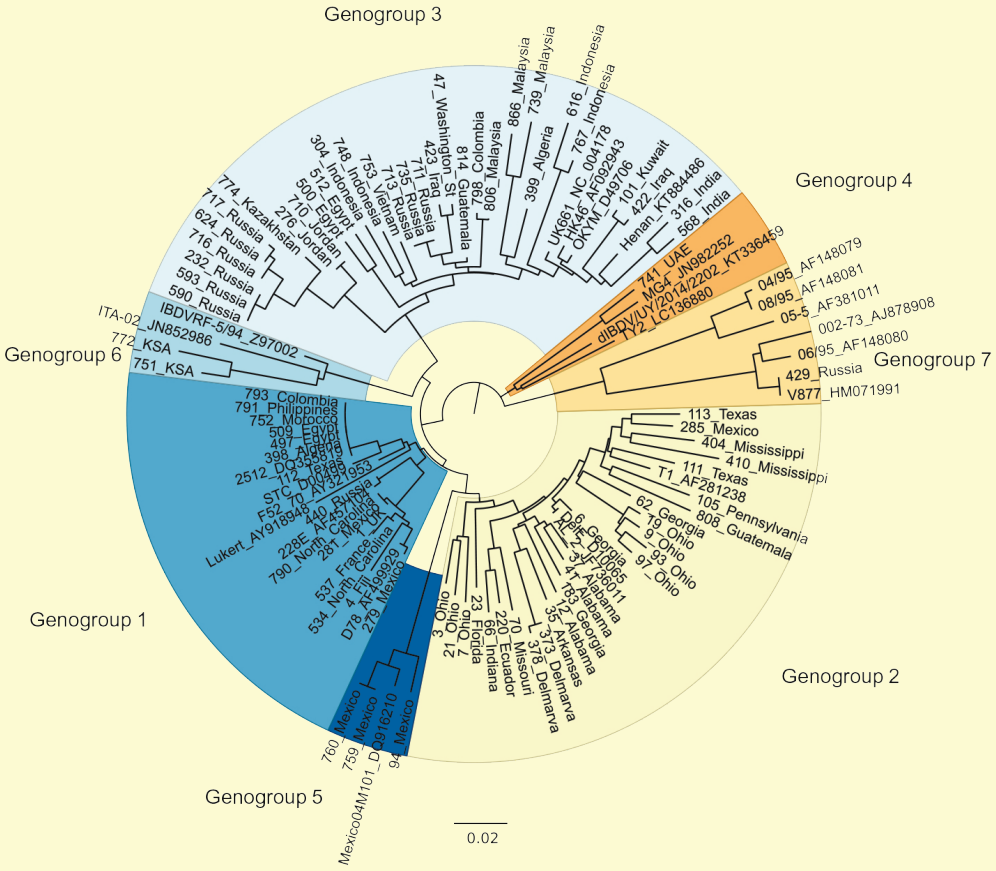
STRONG RESPONSE TO vvIBD

1000 mAb* breakthrough titer of vaccine combined with fast bursa colonization and high homology to very virulant IBDV provide early protection to field vvIBD.

*in IDEXX ELISA

BioTestLab

CLASSIFICATION OF IBDV ISOLATES BY GENE GROUPS



The classification of Gumboro viruses is based solely on the genogroups identified from phylogenetic analysis of hvVP2 of Gumboro disease virus strains worldwide. 7 major genogroups have been identified.

Genogroup 1 (cvIBDV)
includes classic Gumboro disease viruses.

Genogroup 3 (vvIBDV)
includes very virulent Gumboro viruses isolated from different parts of the world that have been implicated in outbreaks of Gumboro disease worldwide.

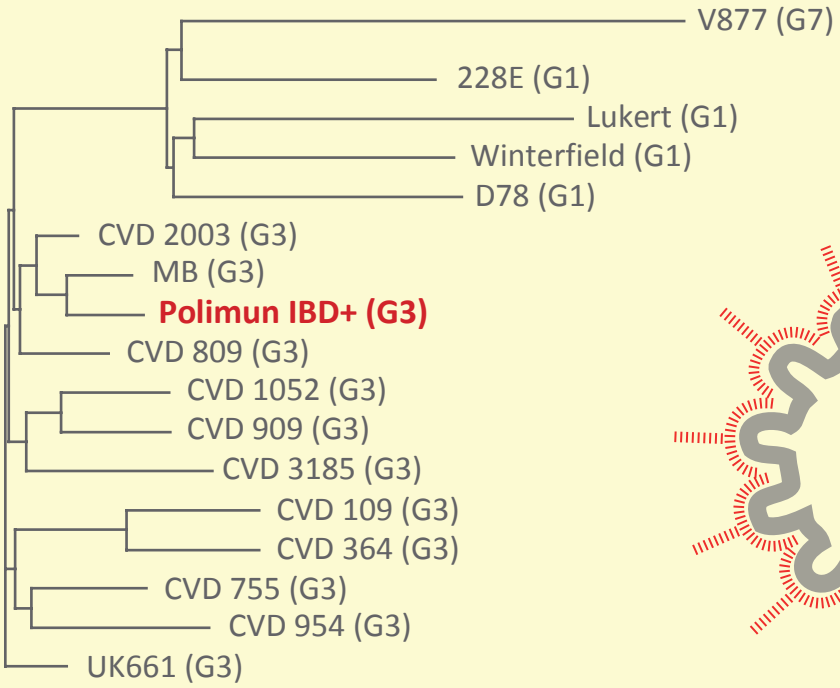
IBDV Genogroup 1 (cvIBDV) and **Genogroup 3 (vvIBDV)**
are globally distributed on different continents (Europe, Asia, Africa).

BDV Genogroup 2, 4, 5, 6, 7
are geographically separated by separate continents (Australia, New Zealand, Latin America).

The choice of a vaccine is always justified by epizootic status of the enterprise, knowledge of specificity of circulating Gumboro disease viruses and selection of the most homologous vaccines, that guarantee stable Gumboro situation

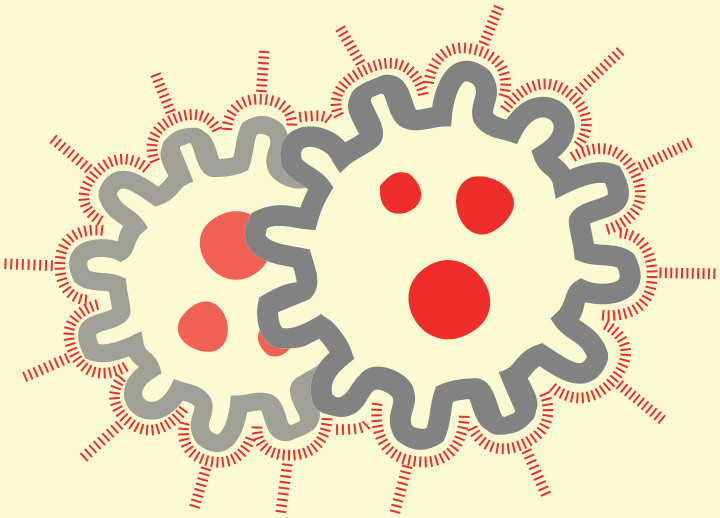
Strong response to vvIBDV

ANALYSIS OF PHILOGENETIC RELATIONSHIP OF POLIMUN IBD+ TO FIELD ISOLATES



MAXIMUM SPECIFIC PROTECTION

FIELD VIRUS *VACCINE*

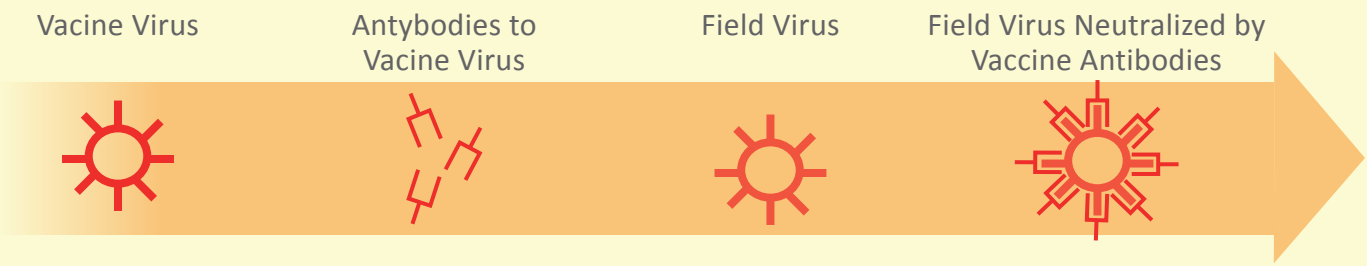


99.9 SIMILARITY - 100% RESULT

POLIMUN IBD+ improves epizootic on-farm situation with vvIBD.

Efficiency of POLIMUN IBD+ is directly connected with high homology of VP2 gene regions of field isolates and antigenic profile of vaccine strain.

Structural protein VP2 of POLIMUN IBD+ vaccine strain is homologous to the field vvIBDV. The homology of amino acid sequences in regions 253, 284, 314-325 equels 100%.
*results of CVD studies, comparing amino acid sequences of conservative regions of VP2 protein of vaccinal strain in POLIMUN IBD+ and very virulent field isolates of Gumboro disease virus.



POLIMUN IBD+ forms highly specific post-vaccination immune response to circulating vvIBDV and ensures the stability of IBD situation

POLIMUN

EFFICIENCY

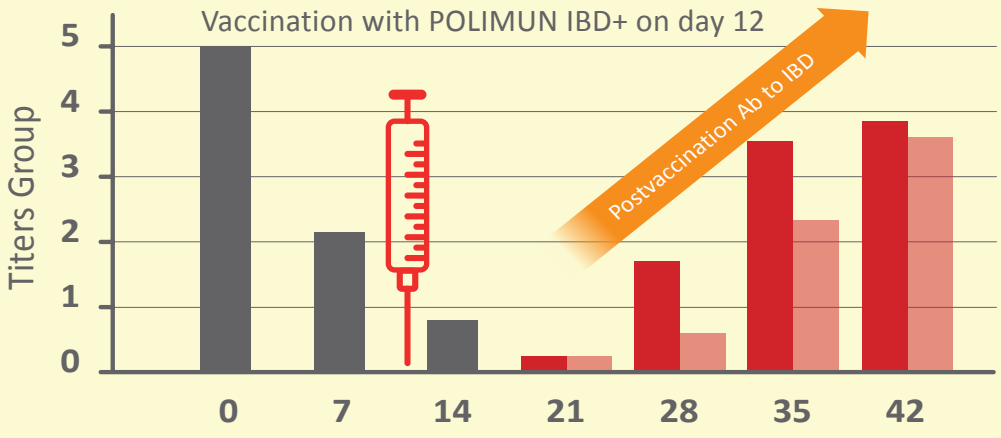
POLIMUN IBD+ forms early and persistent immunity protecting birds from clinical and subclinical IBD.

The vaccine virus of POLIMUN IBD+ is detected in the Fabritius burse on the 3rd day after vaccination.

Results of detecting IBD vaccine virus after vaccination of broilers with POLIMUN IBD+ in 12 days of age, Ukraine, 2013

Days of age	Detection of vaccinal IBDV
12th day - vaccination of poultry POLIMUN IBD+	
15	is present
18	is present
21	is present
25	is present
28	is present
35	is present
42	is present

Development of antibodies in vaccinated and not vaccinated groups that were kept together, Ukraine, 2013



Maternal antibodies

Antibodies to IBD in vaccinated chicks

Antibodies to IBD in control group

POLIMUN IBD+ possesses transmissible activity - it quickly spreads horizontally among a poultry flock, forming group immunity

Solution for different types of IBDV

POLIMUN GUMBORO Vaccines Line for any type of epizootic situation

The aim of vaccination is to protect the chicks from disease before the moment of possible infection with field Gumboro virus.

The choice of a vaccine is based on knowledge of epizootic situation of each farm

In conditions of direct threat of vvIBDV infection, the use of the POLIMUN IBD+ vaccine is justified; in the absence of a threat, it is possible to switch back to the intermediate vaccines like POLIMUN IBD after 3-5 consecutive «hot» cycles POLIMUN IBD+.

Tentative time of poultry vaccination

Vaccine type	Broilers		Layers	
	from breeders vaccinated with live vaccine	from breeders vaccinated with inactivated vaccine	from breeders vaccinated with live vaccine	from breeders vaccinated with inactivated vaccine
POLIMUN IBD Light	10-14 days	14-17 days	14-21 days	21-28 days
POLIMUN IBD	from 10 day	10-14 days	10-14 days	14-28 days
POLIMUN IBD+	from 10 day	10-13 days	from 10 day	12-17 days

Expected levels of post-vaccination antibodies after POLIMUN GUMBORO line application, assessed ELISA diagnostic kits

Vaccine type	IDEXX		BioChek	
	expected titer 35-45 days	suspicion of infection	expected titer 35-45 days	suspicion of infection
POLIMUN IBD Light	1 000-4 000	6 000 & more	6 000 – 12 000	14 000 & more
POLIMUN IBD	1 000-4 000	6 000 & more	6 000 – 12 000	14 000 & more
POLIMUN IBD+	1 000-4 000	6 000 & more	6 000 – 12 000	16 000 & more

POLIMUN IBD Light

500

low viral pressure

POLIMUN IBD

800

unstable situation transition from hot to medium

POLIMUN IBD +

1000

region with very virulent virus predisposing factors

GENERAL RECOMMENDATIONS:

Calculation of vaccination day

Choosing the right time to vaccinate chickens depends primarily on:

- level of maternal antibodies in the chicks
- breakethrough titer of vaccine
- virulence of field virus.

Checklist for drinking water vaccination control

Optimal timeframe for all poultry vaccination procedure is 1.5-2 hours.
The solution of vaccine should be drunk not later than 75-90 minutes and not earlier than 45-60 minutes after lowering the drinking lines.

The optimal amount of working solution for vaccination of poultry

The most accurate calculation is based on the age of the bird and the coefficient.
N (liters) = bird age (days) x number of birds (thousand heads) x coefficient,
where the conversion factor for layers is always 1 and for broilers is 1.5 - 2.0 depanding on weight of bird and temperature of environment influancing water consumption.

The time for formation of thirst in the bird before vaccination

Optimal time for thirst formation normally is about 1.5 - 2 hours before vaccination, provided there is free access to feed.

Determination of the exact time and frequency of vaccination should be carried out using serological tests (ELISA, IDEXX, Deventer's formula)

Drainage of water supply system

Before vaccination of the bird flush drinking lines of a poultry house under pressure.

Stabilization of working vaccine solution

It is recommended to use special products with stabilizing dyes, such as INDIGO Max.

Control of technology and quality of vaccination

Quality of vaccination can be monitored using vaccination indicator products by the degree of coloration of mucous membranes of oral cavity and goiter of chicks in blue color.

Laboratory control

Continuous serologic monitoring allows to control epizootic situation of the disease, analyze quality of vaccination, assess postvaccination immunity (speed of antibodies production, their level and homogeneity)

The POLIMUN GUMBORO line of vaccines provides antigenic diversity and ability to react with correct vaccines, corresponding to epizootic situations of any complexity