



POLIMUN IB VAR 2

live attenuated vaccine
against Avian Infectious Bronchitis:
strain VAR2/V2 $\geq 3,5 \lg \text{EID}_{50}$



EARLY AND LONG-TERM PROTECTION AGAINST IBV GI-23 (VAR2 TYPE)

Vaccine from the VAR2/V2 strain with high homology to the causative agent of infectious bronchitis in chickens of the GI-23 genetic line for early and long-term protection.
Use from the first day of life



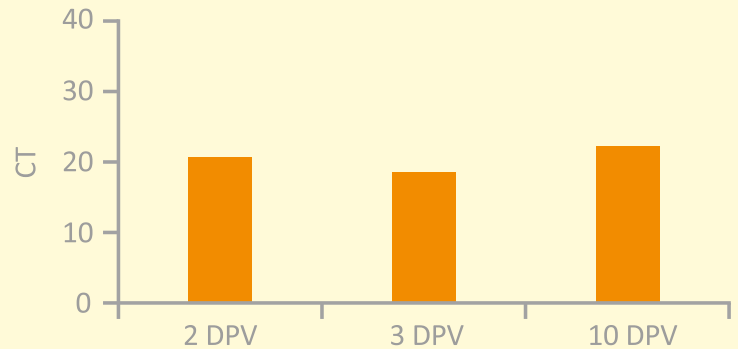
POLIMUN IB VAR 2: Fast induction of high immunity

VACCINE POLIMUN IB VAR 2 PROVIDES EARLY PROTECTION

Active replication of the vaccine virus occurs in the bird's trachea from the 2nd day after vaccination

The "CT" value is a relative measure of searched genetic material in the sample and is defined in up 42 cycles. Fewer cycles — higher amount of viral material: $ct \leq 25$ — "+++", ct_{26-35} — "++", ct_{36-42} — "+", $ct \geq 42$ — "+/-"

Assessment of vaccine virus replication 2 days after administration



POLIMUN IB VAR 2 PROVIDES LONG-TERM PROTECTION OF POULTRY

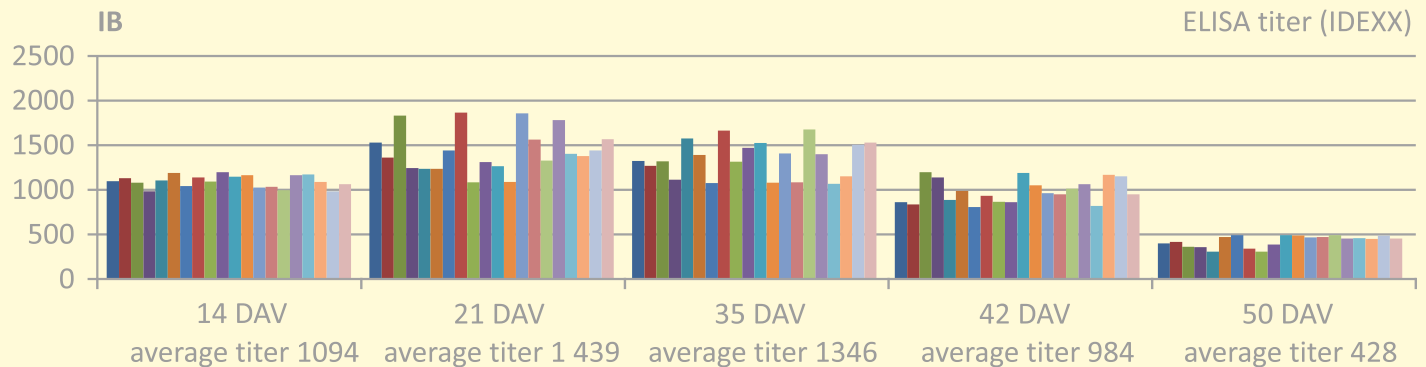
VACCINE IMMUNITY DURATION STUDY

The study was carried out on a group of 90 heads of day-old chickens with SPF status.

Vaccination scheme:

► Day 0 — POLIMUN IB VAR 2 ► Day 14 — POLIMUN IB VAR 2

The observation period is 65 days. Serum samples were taken from randomly selected 20 chickens every 7 days after vaccination.



Stimulates formation of immunity already on the 14th day after vaccination. Protection of vaccinated chickens lasts 6-8 weeks

POLIMUN IB VAR 2 IS SAFE TO USE FROM THE FIRST DAY OF LIFE

POLIMUN IB VAR 2 meets the requirements of the European Pharmacopoeia regarding the safety and immunogenicity of biological products.

The safety assessment was carried out on chickens with SPF status by vaccination at 10- and 100-fold doses per head by different methods.

The absence of clinical signs of damage to the respiratory tract after vaccination and the absence of pathological changes in the internal organs of chickens (organs of the respiratory tract, abdominal cavity, kidneys) within 14 days of observation indicate the safety of the vaccine.

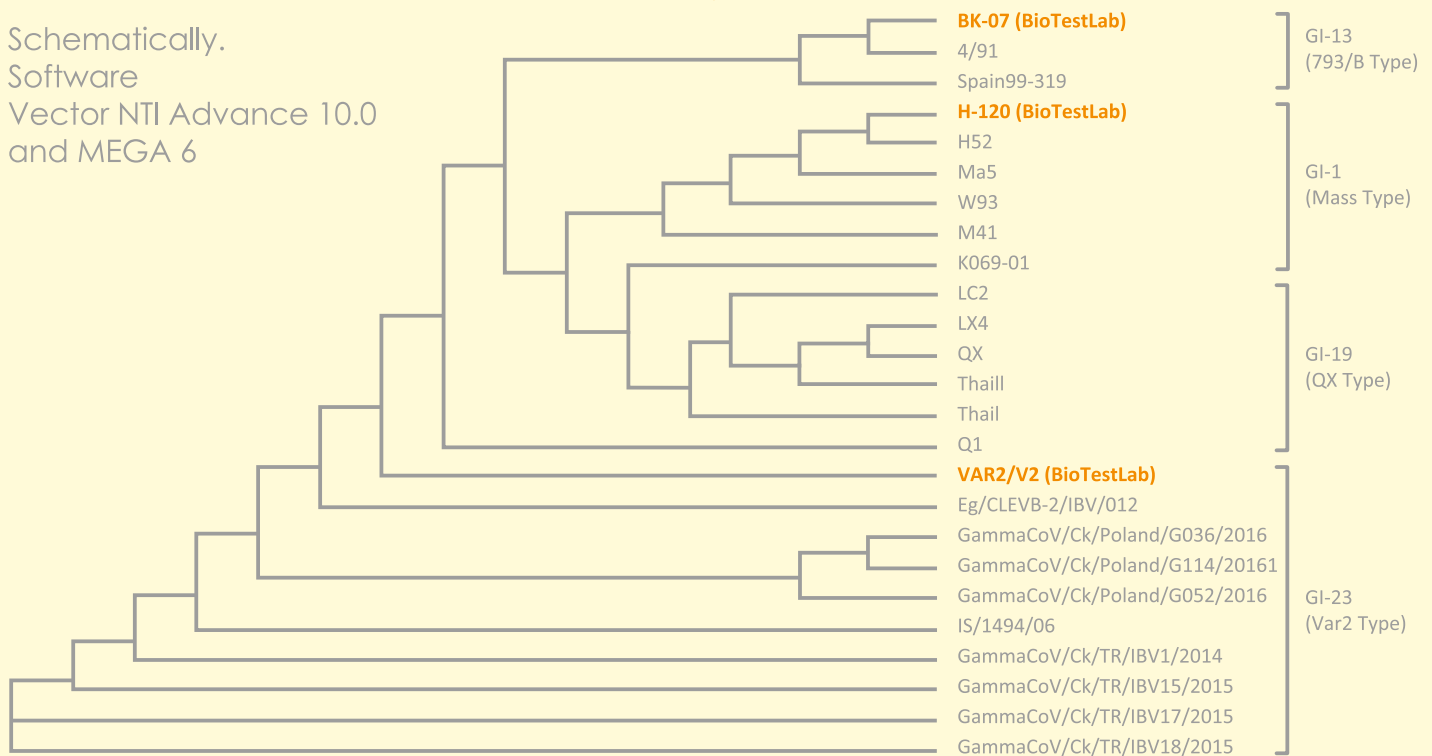
Strain IBV: Genetic Line GI-23

PHYLOGENETIC TREE BASED ON THE ANALYSIS OF THE S1 GENE OF THE CAUSATIVE AGENT OF IB, GENOTYPE GI

Schematically.

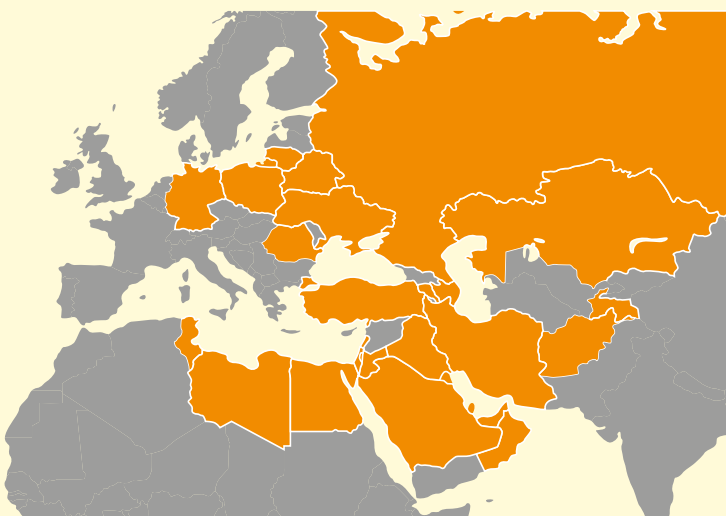
Software

Vector NTI Advance 10.0
and MEGA 6



- According to the new classification of IB¹, based on the analysis of the entire S1 gene, 6 genotypes (GI-GVI) and 32 lines have been identified
- The GI genotype is the largest in terms of the number of lines, each of which is characterized by significant genetic differences and the spread area around the world

GEOGRAPHICAL DISTRIBUTION OF THE GENETIC LINE 23 OF IBV



- The strains belonging to the GI-23 line were first isolated in 1998 in Israel. They are dominant in most farms in the countries of the Middle East and North Africa, causing respiratory and renal pathologies
- In the last decade, GI-23 has spread to many regions of the world (Central Asia, Eastern and Central Europe, Russia)
- In a number of countries (e.g. Egypt, Iran) there is a co-circulation of several highly virulent variants GI-23 (Var2 Type), GI-13 (793/B Type), GI-19 (QX Type) with a predominance of GI-23 isolates
- Vaccines from other genetic lines do not provide complete protection against IB GI-23 viruses²

¹Valastro V, Holmes EC, Britton P, Fusaro A, Jackwood MW, Cattoli G et al (2016) S1 gene-based phylogeny of infectious bronchitis virus: an attempt to harmonize virus classification. *Infection, Genetics and Evolution*. Volume 39, April 2016, Pages 349-364.

²Mohamed H Houta, Kareem E Hassan, Azza A El-Sawah, Magdy F Elkady, Walid H Kilany, Ahmed Ali, Ahmed S Abdel-Moneim. The emergence, evolution and spread of infectious bronchitis virus genotype GI-23. *Archives of Virology* volume 166, pages 9–26 (2021).

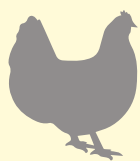
POLIMUN IB VAR 2

FAST AND LONG-TERM PROTECTION AGAINST IB VAR2

Product Description



VACCINATION SCHEME



Standard scheme

POLIMUN IB H-120

POLIMUN IB VAR2

1

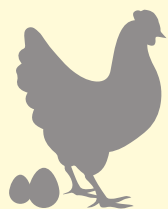
10-14

days of life

Early infection

POLIMUN IB VAR2

POLIMUN IB VAR2



Polimun IB H-120

Polimun IB VAR2

Polimun IB H-120

Polimun IB H-120

Polimun IB VAR2

Polimun IB ND EDS

0

10-14

20-25

50-55

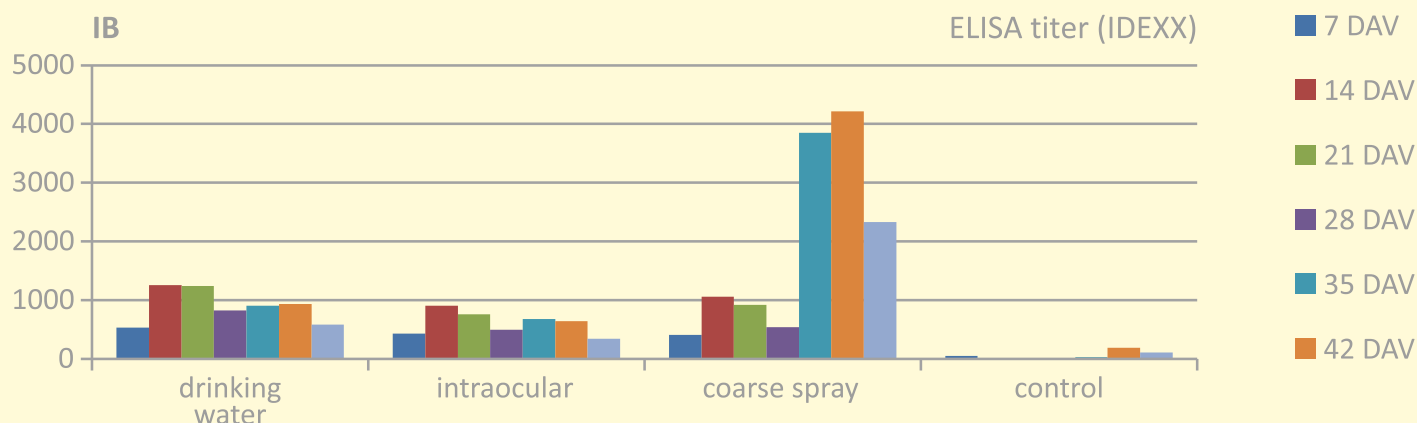
70-75

95-100

days of life

ROUTE OF ADMINISTRATION

For vaccination, one of the following methods is used: spray method, intraocular method, or via drinking water. For the prevention of infectious bronchitis, intraocular and spray methods are considered the most effective method of vaccination.



The effectiveness of vaccination methods was studied on four groups of SPF chickens (group 4 — control). Vaccination scheme: day 0 - POLIMUN IB H120, day 14 - POLIMUN IB VAR2. The formation of antibodies was observed on the 7th day after vaccination in more than 80% of the birds, and after 14 days - already in 100% of the flock.

Humoral immunity continued to be maintained at about the same level in 100% of chickens until the 49th day after vaccination (observation period).