



# FREQUENTLY ASKED QUESTIONS

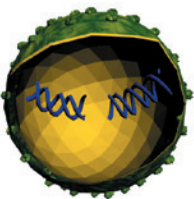


## WHAT IS VAXXITEK® HVT+IBD?

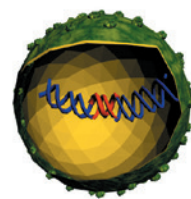
VAXXITEK HVT+IBD is an innovative, safe, effective vaccine that provides protection against Infectious Bursal Disease (IBD) and Marek’s disease (MD) with a single dose.

## WHAT’S IN VAXXITEK® HVT+IBD?

VAXXITEK HVT+IBD is a vectored vaccine which contains a HVT virus (the vector) that has the viral protein 2 (VP2) gene from the IBD virus inserted into it. The resulting virus is known as the construct.



**Illustration 1**  
The genome of the HVT virus (in blue) “cut” to allow insertion of the VP2 gene from the IBD virus.



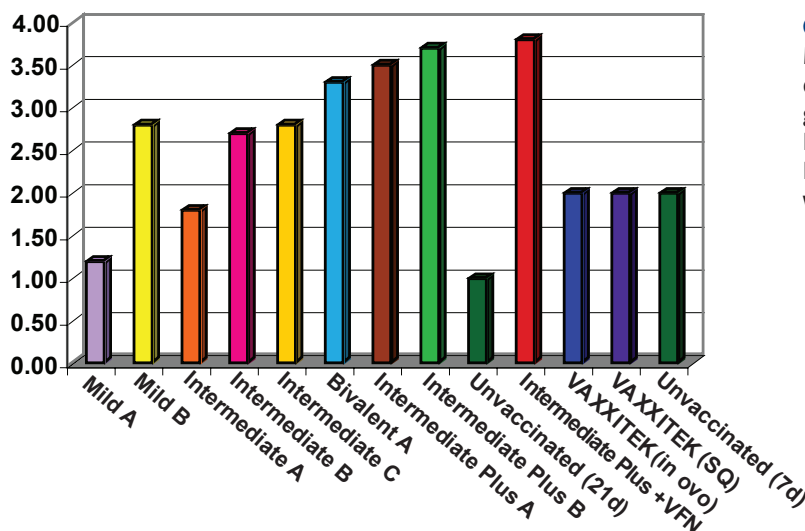
**Illustration 2**  
The VP2 gene (in red) from the IBD virus is inserted into the genome (in blue) of the HVT virus.

## HOW DOES VAXXITEK® HVT+IBD WORK?

When the HVT virus in VAXXITEK HVT+IBD replicates, the VP2 gene insert causes it to produce the VP2 protein. This protein, the most important antigen involved in the immune response to IBD, then stimulates the immune system to produce antibodies that protect against IBD virus.

## IS VAXXITEK® HVT+IBD SAFE?

VAXXITEK HVT+IBD has been developed to meet the stringent safety requirements for veterinary vaccines of both the United States Department of Agriculture (USDA) and the European Medicines Agency (EMA). More importantly, because it does not contain any live IBD virus, VAXXITEK HVT+IBD stimulates immunity without the damage to the bursa that can occur with conventional modified live virus vaccines.<sup>1</sup>

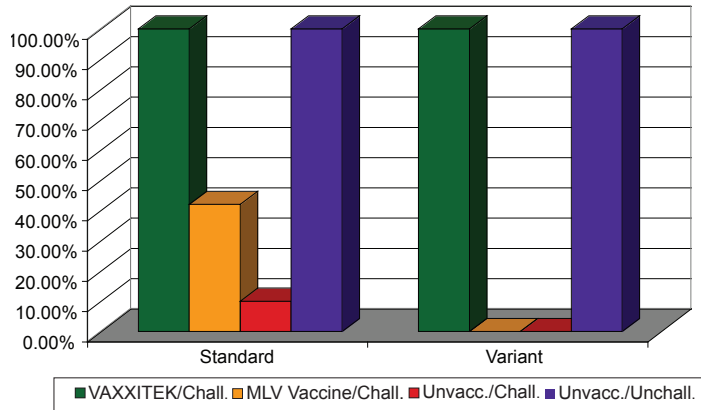


**Chart 1**  
Mean Bursal Lesion Score based on histopathological examination at 7 days post vaccination. MLV vaccines were given at 14 days of age and VAXXITEK and Intermediate Plus+VNF were given either *in ovo* or subcutaneously at DOA. Note the damage that other IBD vaccines can cause when compared to unvaccinated controls.

## IS VAXXITEK® HVT+IBD EFFECTIVE?

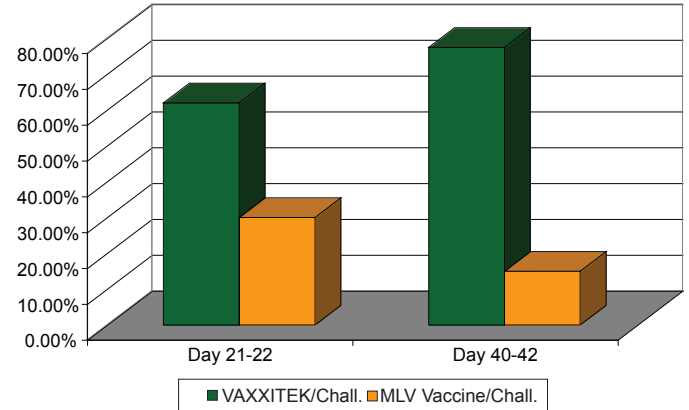
VAXXITEK HVT+IBD is highly effective in protecting chickens against several different strains of IBD including classical, variant and very virulent IBD (vvIBD) viruses.<sup>2</sup>

Chart 2



Protection against Standard and Variant IBD Challenge in broilers vaccinated subcutaneously and challenged at 28 days of age.

Chart 3

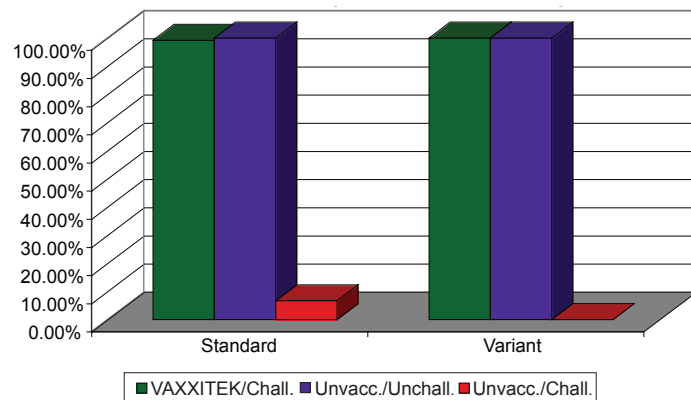


Protection against very virulent IBD Challenge in broilers vaccinated *in ovo*.

## WHAT IBD STRAIN WAS USED FOR THE VP2 INSERT IN VAXXITEK® HVT+IBD?

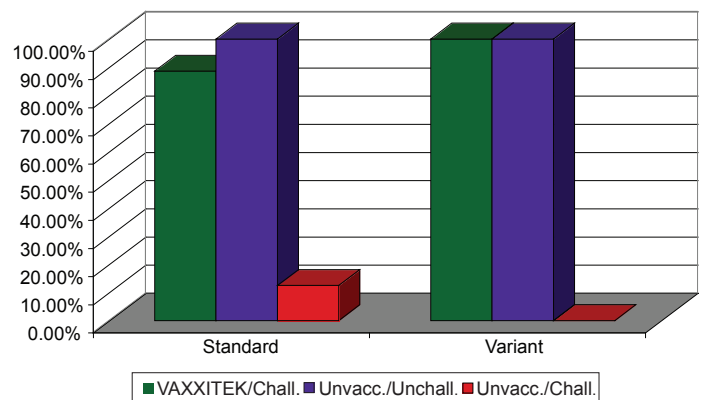
The VP2 gene used in VAXXITEK HVT+IBD was derived from a classical strain of IBD known as the Faragher 52/70 strain. While developing VAXXITEK, Boehringer Ingelheim's R&D department evaluated a number of different constructs including ones using an insert derived from variant strains. The Faragher strain was chosen because it provided a broad spectrum of protection against classical, variant and very virulent IBD.

Chart 4



Protection against Standard and Variant IBD Challenge. Broilers vaccinated subcutaneously and challenged at 35 days of age.

Chart 5



Protection against Standard and Variant IBD Challenge. Broilers vaccinated *in ovo* and challenged at 35 days of age.

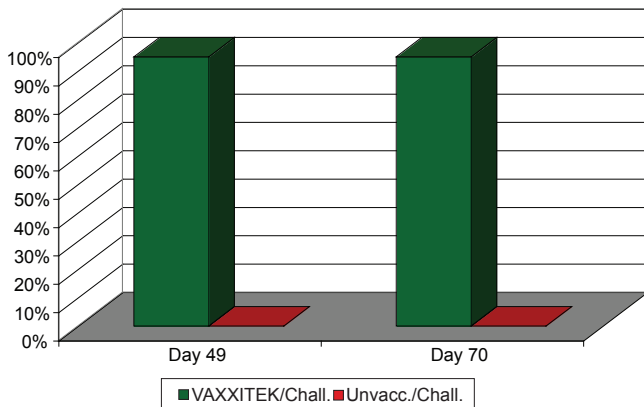
## HOW CAN VAXXITEK® HVT+IBD PROTECT MY CHICKENS WITH A SINGLE DOSE?

Because VAXXITEK HVT+IBD uses HVT (a herpes virus) as the vector system, the vaccine virus infects the chicken for life. This persistence means that the VP2 antigen is always present to stimulate an immune response to IBD.<sup>2</sup>

## HOW LONG WILL THE PROTECTION FROM VAXXITEK® HVT+IBD LAST?

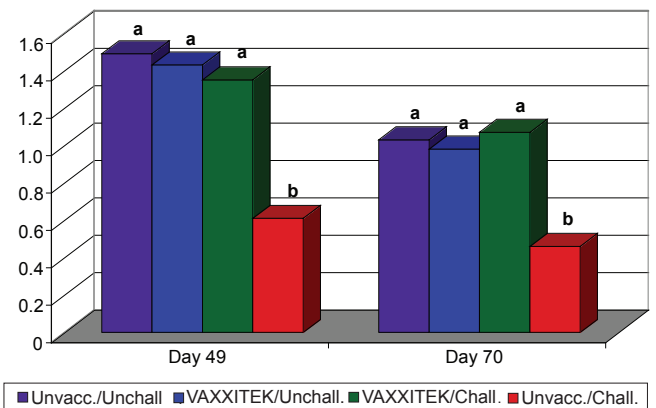
Because VAXXITEK HVT+IBD persists for the life of the chicken, the protection it stimulates can potentially be life-long. Research has confirmed this in chickens as old as 10 weeks of age.<sup>2</sup>

Chart 6



Duration of immunity against Standard IBD Challenge in broilers vaccinated *in ovo*.

Chart 7



Duration of immunity against Variant IBD Challenge in broilers vaccinated *in ovo*.

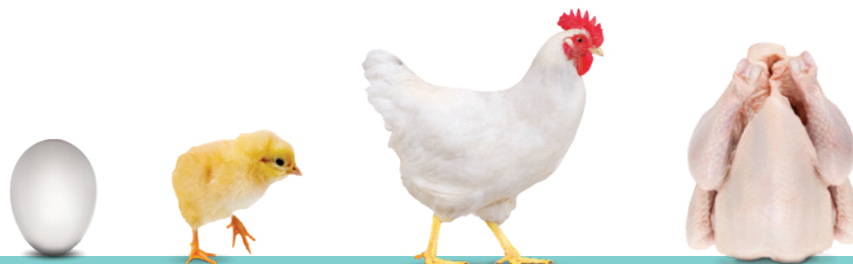
## HOW IS VAXXITEK® HVT+IBD ADMINISTERED?

VAXXITEK HVT+IBD is administered just like other MD vaccines, either *in ovo* or subcutaneously at day of age.

## DO I NEED TO USE ADDITIONAL IBD VACCINES IF I USE VAXXITEK® HVT+IBD?

No. The persistence of VAXXITEK HVT+IBD makes subsequent vaccinations with a modified live IBD vaccine unnecessary.<sup>2</sup>

FROM HATCH

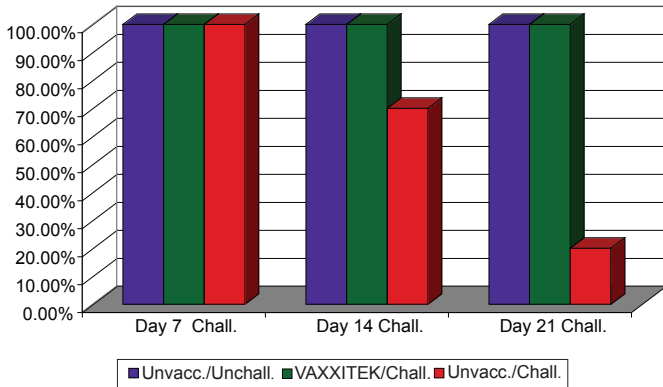


TO HARVEST

## WILL VAXXITEK® HVT+IBD WORK IN THE FACE OF MATERNAL ANTIBODIES?

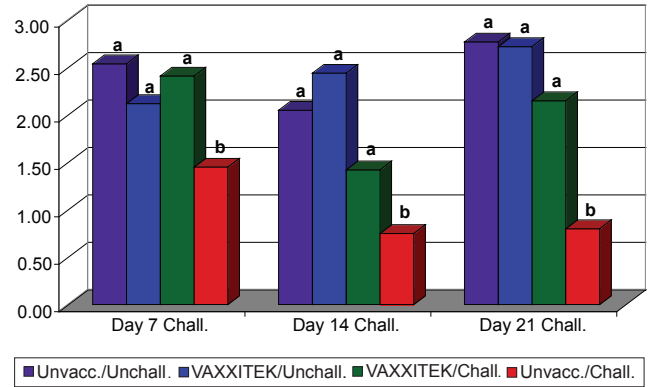
Yes. Since VAXXITEK HVT+IBD uses an HVT vector system rather than the whole IBD virus, there is no maternal antibody interference with the vaccination.<sup>2</sup>

Chart 8



Onset of immunity against Standard IBD Challenge in broilers vaccinated *in ovo*.

Chart 9



Onset of immunity against Variant IBD Challenge in broilers vaccinated *in ovo*.





#### References

1. Ismail NM, Saif YM. Immunogenicity of infectious bursal disease viruses in chickens. *Avian Diseases*, 1991; 35:460-469.
2. Bublot M, Pritchard N, Le Gros F-X, Goutebroze S. Use of a vectored vaccine against infectious bursal disease of chickens in the face of high-titred maternally derived antibody. *Journal of Comparative Pathology*, 2007; 137:81-84.

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