

# U.S. Poultry Product Guide





## **Vaccines ..... Page 4**

AVIAN ENCEPHALOMYELITIS (AE) AND FOWL POX (FP) VACCINE .....	4
LIVE INFECTIOUS LARYNGOTRACHEITIS VACCINE .....	4
LIVE INFECTIOUS BURSAL DISEASE VACCINES .....	5
LIVE MAREK'S DISEASE VACCINES .....	5
VECTORED MAREK'S DISEASE VACCINE .....	6
LIVE INFECTIOUS BRONCHITIS VACCINES .....	6
LIVE NEWCASTLE DISEASE VACCINES .....	7
COMBINATION LIVE NEWCASTLE DISEASE AND INFECTIOUS BRONCHITIS VACCINES .....	8
LIVE REOVIRUS (VIRAL ARTHRITIS) VACCINE .....	8
LIVE BACTERIAL VACCINES .....	9
INACTIVATED VACCINES AND BACTERINS .....	10

## **Embrex® BioDevices ..... Page 12**



## **Industry-shaping products to help meet your business goals.**

Zoetis is proud to contribute to the important role of poultry health in providing a safe, sustainable food supply. Our broad portfolio of products and services supports customers in their work to predict, prevent, detect and treat health conditions at critical points along the poultry production chain. Our comprehensive product offering includes Embrex® BioDevices for hatcheries, Double Breast Vaccinator for pullets, conventional Poulvac® vaccines and Poulvac Procerta® vectored vaccines, serving breeder, broiler, layer and turkey production systems. Our effective, reliable products are backed by a range of services and diagnostics and an expert team of veterinary specialists who tailor solutions to help customers meet their goals.

# Vaccines

Mitigating and preventing poultry diseases starts with our portfolio of inactivated, modified-live and vectored vaccines to help manage key bacterial and viral challenges in commercial flocks. Poulvac® vaccines protect against infectious bursal disease virus, Marek's disease, infectious bronchitis virus, Newcastle disease, *Escherichia coli* (*E. coli*) and *Salmonella*. Poulvac Procerta® vectored vaccines can be paired with our Embrex® BioDevices to deliver fast, powerful protection to broilers. Select Poulvac vaccines can be paired with our Double Breast Vaccinator for effective flock protection.



## AVIAN ENCEPHALOMYELITIS (AE) AND FOWL POX (FP) VACCINE

### AE-Poxine® modified-live freeze-dried vaccine

**Composition:** Avian encephalomyelitis and live fowl pox virus

**Indications:** Has been shown to be effective for the vaccination of healthy pullets 8 weeks of age or older (and four weeks before the start of egg production) against avian encephalomyelitis and fowl pox virus in chickens.

**Method of administration:** Wing web injection

**Packaging:** 10 x 1,000 ds



## LIVE INFECTIOUS LARYNGOTRACHEITIS VACCINE

### Laryngo-Vac® modified-live freeze-dried vaccine

**Composition:** Modified-live infectious laryngotracheitis virus

**Indications:** Has been shown to be effective for the vaccination of healthy chickens 4 weeks of age or older against infectious laryngotracheitis virus. If conditions dictate, birds may be vaccinated as early as 10 days of age.

**Method of administration:** Coarse spray, drinking water or intraocular

**Packaging:** 10 x 1,000 ds or 10 x 10,000 ds



## LIVE INFECTIOUS BURSAL DISEASE VACCINES

### Poulvac® Bursaplex® live immune complex freeze-dried vaccine



**Composition:** Live intermediate plus strength, Winterfield 2512 strain and specific infectious bursal disease virus antibody

**Indications:** Has been shown to be effective for the vaccination of healthy 1-day-old chicks or the *in ovo* vaccination of 18- to 19-day-old embryonated chicken eggs against infectious bursal disease.

**Method of administration:** *In ovo* injection or subcutaneous injection

**Packaging:** 10 x 8,000 ds

### Bursine®-2 modified-live freeze-dried vaccine



**Composition:** Modified-live infectious bursal disease virus, Bursine-2 strain

**Indications:** Has been shown to be effective for the vaccination of healthy chickens 7 days of age or older against infectious bursal disease.

**Method of administration:** Drinking water

**Packaging:** 10 x 10,000 ds

### Bursine® Plus modified-live freeze-dried vaccine



**Composition:** Live infectious bursal disease virus

**Indications:** Has been shown to be effective for the vaccination of healthy chickens 7 days of age or older against infectious bursal disease.

**Method of administration:** Drinking water

**Packaging:** 10 x 5,000 ds

## LIVE MAREK'S DISEASE VACCINES

### MD-Vac® CFL modified-live freeze-dried vaccine



**Composition:** Live Marek's disease virus, serotype 3

**Indications:** Has been shown to be effective for the vaccination of healthy 1-day-old chicks against Marek's disease, serotype 3.

**Method of administration:** Subcutaneous injection

**Packaging:** 10 x 1,000 ds

### Poulvac® Ovoline® CVI modified-live frozen vaccine



**Composition:** Marek's disease vaccine, serotype 1 (Rispons CVI), live virus, frozen

**Indications:** Has been shown to be effective for the vaccination of healthy 1-day-old chicks or the *in ovo* vaccination of 18- to 19-day-old embryonated chicken eggs against very virulent Marek's disease.

**Method of administration:** *In ovo* injection or subcutaneous injection

**Packaging:** 5 x 2,000 ds

### Poulvac® Marek CVI + HVT modified-live frozen vaccine



**Composition:** Live Marek's disease virus, serotypes 1 and 3

**Indications:** Has been shown to be effective for the vaccination of healthy 1-day-old chicks or the *in ovo* vaccination of 18- to 19-day-old embryonated chicken eggs against Marek's disease, serotypes 1 and 3.

**Method of administration:** *In ovo* injection or subcutaneous injection

**Packaging:** 5 x 2,000 ds

## VECTORED MAREK'S DISEASE VACCINES

### Poulvac® Procerta® HVT-ND modified-live vectored frozen vaccine

**Composition:** This vaccine is a frozen, cell-associated, live virus vaccine that contains the recombinant serotype 3 turkey herpesvirus with the F gene from Newcastle disease virus.

**Indications:** Has been shown to be effective for the vaccination of healthy 1-day-old chicks or the *in ovo* vaccination of 18- to 19-day-old embryonated chicken eggs against Marek's disease and Newcastle disease.

**Method of administration:** *In ovo* injection or subcutaneous injection

**Packaging:** 5 x 4,000 ds



### Poulvac® Procerta® HVT-IBD-ND modified-live vectored frozen vaccine

**Composition:** This vaccine is a frozen, cell-associated, live virus vaccine that contains the recombinant serotype 3 turkey herpesvirus with the VP2 gene from infectious bursal disease virus and the F gene from Newcastle disease virus.

**Indications:** Has been shown to be effective for the vaccination of healthy 1-day-old chickens or the *in ovo* vaccination of 18- to 19-day-old embryonated chicken eggs against Marek's disease, infectious bursal disease and Newcastle disease.

**Method of administration:** *In ovo* injection or subcutaneous injection

**Packaging:** 5 x 4,000 ds



### Poulvac® Procerta® HVT-IBD modified-live vectored frozen vaccine

**Composition:** This vaccine is a frozen, cell-associated, live virus vaccine that contains the recombinant serotype 3 turkey herpesvirus with the VP2 gene from infectious bursal disease virus.

**Indications:** Has been shown to be effective for the vaccination of healthy 1-day-old chicks or the *in ovo* vaccination of 18- to 19-day-old embryonated chicken eggs against Marek's disease and infectious bursal disease.

**Method of administration:** *In ovo* injection or subcutaneous injection

**Packaging:** 5 x 4,000 ds



## LIVE INFECTIOUS BRONCHITIS VACCINES

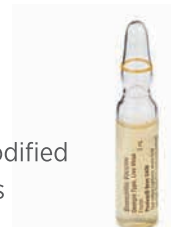
### Poulvac® Bron GA08 modified-live frozen vaccine

**Composition:** Live virus containing a modified strain of Georgia 08 infectious bronchitis

**Indications:** Has been shown to be effective for the vaccination of healthy chickens 1 day of age or older against infectious bronchitis caused by the Georgia 08 strain.

**Method of administration:** Coarse spray

**Packaging:** 5 x 10,000 ds or 5 x 20,000 ds





**Poulvac® Bron GA98  
modified-live  
freeze-dried vaccine**



**Composition:** Live virus vaccine containing a modified strain of Georgia 98 infectious bronchitis

**Indications:** Has been shown to be effective for the vaccination of healthy chickens 1 day of age or older against infectious bronchitis caused by the Georgia 98 strain.

**Method of administration:** Coarse spray

**Packaging:** 10 x 10,000 ds

**Poulvac® IB Ark  
modified-live  
freeze-dried vaccine**



**Composition:** Live infectious bronchitis virus, Arkansas serotype

**Indications:** Has been shown to be effective for the vaccination of healthy chickens 1 day of age or older against infectious bronchitis caused by the Arkansas serotype.

**Method of administration:** Drinking water

**Packaging:** 10 x 10,000 ds

**Poulvac® IB Mass  
modified-live  
freeze-dried vaccine**



**Composition:** Live infectious bronchitis virus, Massachusetts serotype

**Indications:** Has been shown to be effective for the vaccination of healthy chickens 2 weeks of age or older against infectious bronchitis caused by the Massachusetts serotype.

**Method of administration:** Coarse spray or drinking water

**Packaging:** 10 x 10,000 ds

**LIVE NEWCASTLE DISEASE VACCINES**

**Newcastle LaSota  
modified-live  
freeze-dried vaccine**



**Composition:** Newcastle disease vaccine, B1 type, LaSota strain, live virus

**Indications:** Has been shown to be effective for the vaccination of healthy chickens 2 weeks of age or older against Newcastle disease, LaSota strain.

**Method of administration:** Drinking water or coarse spray

**Packaging:** 10 x 5,000 ds

## COMBINATION LIVE NEWCASTLE DISEASE AND INFECTIOUS BRONCHITIS VACCINES

### Newcastle Disease B1 and Bronchitis Conn Mass modified-live freeze-dried vaccine



**Composition:** Live Newcastle disease virus, B1 type, B1 strain, live infectious bronchitis virus, Massachusetts and Connecticut serotypes

**Indications:** Has been shown to be effective for the vaccination of healthy chickens 2 weeks of age or older against Newcastle disease and infectious bronchitis, Massachusetts and Connecticut serotypes.

**Method of administration:** Drinking water or coarse spray

**Packaging:** 10 x 10,000 ds

### LaSota Mass II™ modified-live freeze-dried vaccine



**Composition:** Live Newcastle disease virus, B1 type, LaSota strain and live infectious bronchitis virus, Massachusetts serotype

**Indications:** Has been shown to be effective for the vaccination of healthy chickens 2 weeks of age or older against Newcastle disease and infectious bronchitis, Massachusetts serotype.

**Method of administration:** Drinking water

**Packaging:** 10 x 10,000 ds

### Poultvac Aero® modified-live freeze-dried vaccine



**Composition:** Modified-live Newcastle disease virus, B1 type, B1 strain, modified-live infectious bronchitis virus, Holland strain Massachusetts serotype

**Indications:** Has been shown to be effective for the vaccination of healthy chickens 1 day of age or older against Newcastle disease and infectious bronchitis, Massachusetts serotype.

**Method of administration:** Coarse spray

**Packaging:** 10 x 10,000 ds

## LIVE REOVIRUS (VIRAL ARTHRITIS) VACCINE

### V.A. ChickVac™ modified-live freeze-dried vaccine



**Composition:** Modified-live avian reovirus, 1133 strain

**Indications:** Has been shown to be effective for the vaccination of healthy chickens 1 to 10 days of age against viral arthritis (tenosynovitis) caused by avian reovirus.

**Method of administration:** Subcutaneous injection

**Packaging:** 10 x 1,000 ds



## LIVE BACTERIAL VACCINES

### Poulvac® Cholera PM-1 modified-live freeze-dried vaccine



**Composition:** Contains known avirulent isolate of *Pasteurella multocida* (PM-1)

**Indications:** Has been shown to be effective for the vaccination of healthy chickens 10 to 12 weeks of age against *P. multocida* Type 1.

**Method of administration:** Wing web

**Packaging:** 10 x 1,000 ds

### Poulvac® E. coli modified-live freeze-dried vaccine



**Composition:** *Escherichia coli* vaccine, live culture

**Indications:** Has been shown to be effective for the vaccination of healthy chickens 1 day of age or older and turkeys at 3 days of age against *E. coli* bacteria.

**Method of administration:** Coarse spray or drinking water

**Packaging:** 10 x 5,000 ds or 10 x 20,000 ds

### Poulvac® Myco F modified-live freeze-dried vaccine



**Composition:** Contains the F strain of *Mycoplasma gallisepticum*

**Indications:** Has been shown to be effective for the vaccination of healthy chickens 9 weeks of age or older against *M. gallisepticum* bacteria.

**Method of administration:** Coarse spray or intraocular

**Packaging:** 10 x 1,000 ds

### Poulvac® ST modified-live freeze-dried vaccine



**Composition:** Modified-live *Salmonella typhimurium*

**Indications:** Has been shown to be effective for the vaccination of healthy chickens 1 day of age or older against *S. Enteritidis*, *S. Heidelberg* and *S. Typhimurium* bacteria.

**Method of administration:** Coarse spray or drinking water

**Packaging:** 10 x 5,000 ds, 10 x 10,000 ds or 10 x 20,000 ds

## INACTIVATED VACCINES AND BACTERINS

### MG-Bac® inactivated oil emulsion vaccine

**Composition:** Inactivated  
*Mycoplasma gallisepticum*

**Indications:** Has been shown to be effective for the vaccination of healthy chickens 1 week of age or older against *M. gallisepticum*.

**Method of administration:** Subcutaneous injection or intramuscular injection

**Packaging:** 1 x 1,000 ds



### Poulvac Coryza ABC IC<sub>3</sub> inactivated aluminum hydroxide vaccine

**Composition:** Inactivated  
*Avibacterium paragallinarum*,  
serovars A, B and C

**Indications:** Has been shown to be effective for the vaccination of healthy chickens 8 weeks of age or older against infectious coryza (*A. paragallinarum*) caused by serovars A, B and C.

**Method of administration:** Subcutaneous injection or intramuscular injection

**Packaging:** 1 x 1,000 ds



### Poulvac® iN + B

**Composition:** Inactivated  
Newcastle disease virus, LaSota  
strain, inactivated infectious  
bronchitis virus, Massachusetts  
serotype

**Indications:** Aids in the prevention of the signs and lesions associated with Newcastle disease and infectious bronchitis.

**Method of administration:** Subcutaneous injection

**Packaging:** 1 x 1,000 ds



### Poulvac Maternavac® IBD-Reo inactivated oil emulsion vaccine

**Composition:** Contains killed  
infectious bursal disease virus  
(Variant Group-6 and Lukert  
strains), killed reovirus (Tenosynovitis strain 1733  
and Malabsorption strain 2408)

**Indications:** Has been shown to be effective for the vaccination of healthy chickens 16 to 22 weeks of age against infectious bursal disease and reovirus disease.

**Method of administration:** Intramuscular injection or subcutaneous injection

**Packaging:** 1 x 1,000 ds



### Poulvac Maternavac® 4 inactivated oil emulsion vaccine

**Composition:** Contains killed  
infectious bursal disease virus  
(Variant Group-6 and Lukert  
strains), killed reovirus (Tenosynovitis strain 1733  
and Malabsorption strain 2408), killed infectious  
bronchitis virus (Massachusetts strain), killed ND  
virus (Kimber strain)

**Indications:** Has been shown to be effective for the vaccination of healthy chickens 16 to 22 weeks of age against infectious bursal disease; Newcastle disease; reovirus; and infectious bronchitis, Massachusetts strain.

**Method of administration:** Intramuscular injection or subcutaneous injection

**Packaging:** 1 x 1,000 ds



## Poulvac® SE inactivated oil emulsion vaccine

**Composition:** Inactivated *Salmonella* Enteritidis, phage types 4, 8 and 13a

**Indications:** Has been shown to be effective for the vaccination of healthy chickens 12 weeks of age or older against *S. Enteritidis* bacteria.

**Method of administration:** Subcutaneous injection

**Packaging:** 1 x 1,000 ds



## Poulvac® SE-ND-IB inactivated oil emulsion vaccine

**Composition:** Inactivated *Salmonella* Enteritidis phage types 4, 8 and 13a; inactivated Newcastle disease virus, LaSota strain; inactivated infectious bronchitis virus, Massachusetts serotype, M-41 strain

**Indications:** Has been shown to be effective for the vaccination of healthy chickens 12 weeks of age against *S. Enteritidis* bacteria, Newcastle disease and infectious bronchitis.

**Method of administration:** Subcutaneous injection

**Packaging:** 1 x 1,000 ds



## Diagnostic Kits for ProFLOK®

Zoetis offers ELISA (enzyme-linked-immunosorbent assay) test kits, insightful technical support and upgraded software for ProFILE®.

Kit	Chicken	Turkey
ProFLOK® AE Ab	✓	
ProFLOK BA-T Ab		✓
ProFLOK HEV-T Ab		✓
ProFLOK LT Ab	✓	
Flu DETECT® Avian	✓	✓
ProFLOK NDV T Ab		✓
ProFLOK NDV Ab	✓	
ProFLOK REO Ab	✓	
ProFLOK IBV Ab	✓	
ProFLOK MS Ab	✓	
ProFLOK MS T Ab		✓
ProFLOK MG Ab	✓	
ProFLOK MG T Ab		✓
ProFLOK MG-MS Ab	✓	✓
ProFLOK IBD Ab	✓	
ProFLOK IBD Plus Ab	✓	
ProFLOK AIV Ab	✓	✓
ProFLOK MM Ab		✓

Zoetis offers diagnostic laboratory services for field surveillance and take analysis, along with hatchery environmental surveys with bacterial and fungal risk assessment.



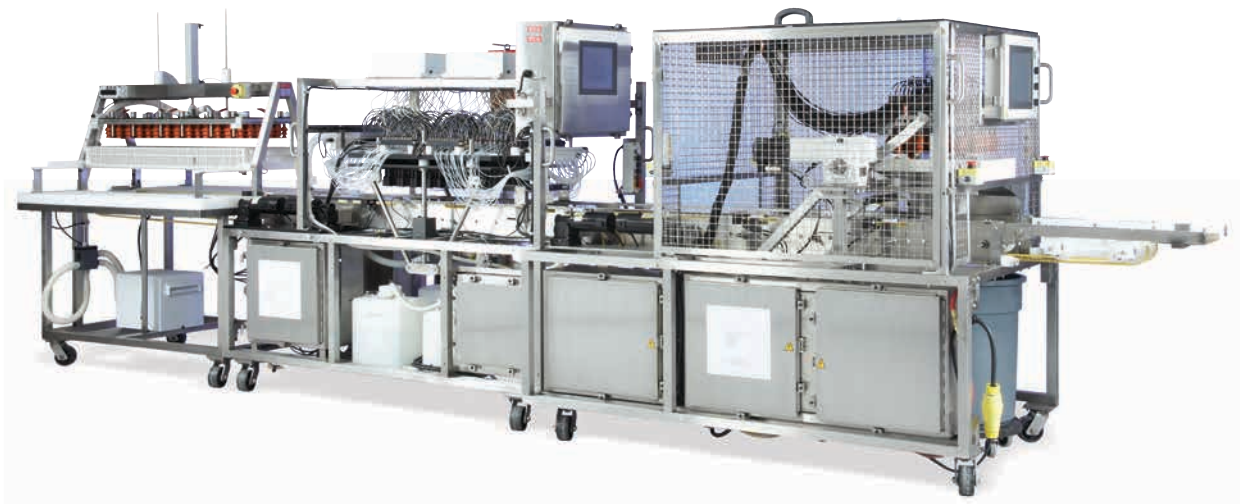
# Embrex® BioDevices

The portfolio for Embrex® BioDevices is the trusted *in ovo* vaccination brand that helps effectively immunize chicks.<sup>1</sup> Since 1992, the Embrex portfolio has helped hatcheries through trusted technology, services and results.

## Inovoject® system

Since 1992, the Inovoject system has supported strong flock protection as the pioneer *in ovo* vaccination technology. With throughput up to 45,000 eggs per hour, it's designed to help protect chicks from disease challenges through highly accurate<sup>1</sup> *in ovo* vaccination. With vaccine-saving technology, the Inovoject system delivers vaccine to only viable eggs while maintaining live vaccine cell integrity and a consistent, controlled vaccine dose.

The Embrex® Egg Remover® option for the Inovoject system helps reduce microbial risk to hatching chicks and helps improve hatchability.<sup>2</sup> With less debris in hatch baskets, processing time may be reduced, allowing chicks to get to farms more quickly. The Inovoject system is customizable to fit your operation with the optional Embrex Egg Remover and transfer table, and it's compatible with automation to help meet unique hatchery needs.





## Inovoject® NXT

The Embrex® Inovoject® NXT system represents a new generation of the industry-leading Inovoject® system. The Embrex dual-needle technology in the Inovoject NXT system has demonstrated the highest injection-site accuracy when compared with a single-needle device.<sup>1</sup> With the right stage of embryo development and recommended transfer time, data shows this technology delivers up to 100% accurate site of injection within the embryo.<sup>1</sup> This precision of vaccine deposition helps initiate a better immune response,<sup>1</sup> resulting in newly hatched chicks with protection from disease challenges.<sup>3</sup>

This high-throughput biodevice, which vaccinates up to 70,000 eggs per hour, brings three patented technologies exclusive to the Inovoject NXT system — egg identification, injection-site accuracy and egg handling.

**Embrex Accusight™:** On the control module, Embrex Accusight technology identifies nonviable eggs as part of the *in ovo* injection process. This results in more than 99% accuracy for infertile and early dead eggs — despite tray color, egg size, speed or ambient lighting — to optimize egg removal and vaccine savings.<sup>4</sup>

**Embrex Precixion™:** On the injection module, Embrex Precixion technology delivers a fast punch and allows 360-degree egg locator cup positioning designed to provide up to 100% injection-site accuracy.<sup>5</sup>



**Haylo™ technology:** On the transfer table and egg remover, Haylo technology removes and transfers eggs with patented loop-wire design, reducing cracks,<sup>\*6</sup> minimizing egg contact and enabling easier disinfection.

*Configurations for Inovoject® NXT vary. Consult with your Zoetis representative.*

## Egg Remover® NXT

The Embrex® Egg Remover® NXT with Haylo technology provides egg identification independent of flat color or lighting. Wholebasket processing allows for efficient throughput. Removing clear eggs (infertile and early embryonic dead eggs) can help improve hatcher airflow and can help reduce microbial exposure to hatching chicks.<sup>2</sup>

## Double Breast Vaccinator

The Double Breast Vaccinator is an innovative vaccine delivery solution for pullets that can deliver one or two vaccines simultaneously. It is designed to help reduce the risk of self-injection while supporting efficiency during the vaccination process.

\*The reduction in egg cracking with the Inovoject® NXT system is numerically less than with the Inovoject® system, although not statistically significant.



## Contact us

Zoetis provides insightful technical support of its products to ensure they meet your flock and business needs.

**Website:** [www.zoetisUS.com/poultry](http://www.zoetisUS.com/poultry)

**Address:** 1040 Swabia Court  
Durham, NC 27703-8481

<sup>1</sup> Avakian AP, Wakenell PS, Bryan T, Schaeffer JL, Williams CJ, Whitfill C. In ovo administration of Marek's disease vaccine: Importance of vaccine deposition site in the fertile egg, in *Proceedings*. 51st Western Poultry Disease Conference 2002;119-121.

<sup>2</sup> Williams CJ, Radford AT, Shepherd LE, Richardson DR. The Effects of Automated Clear Egg Removal Prior to Transfer and In Ovo Vaccination. Technical Review, July 2002.

<sup>3</sup> Barbosa T, Williams C, Villalobos T. Efficacy and Marek's disease protection comparison between different vaccination methods, in *Proceedings*. 18th Congress World Veterinary Poultry Association 2013;217.

<sup>4</sup> Data on file, Study Report No. 1-20-70R7D, Zoetis Inc.

<sup>5</sup> Data on file, Study Report Nos. 02-18-70R7D PS-5802CDI SR, 02-18-70R7D PS-5802B SR, 02-18-70R7D PS-5802C SR, 02-18-70R7D PS-5802CD SR, 02-18-70R7D PS-5802D SR and 02-18-70R7D PS-5802 SR, Zoetis Inc.

<sup>6</sup> Data on file, Study Report No. 01-19-70R7D, Zoetis Inc.