



Rhini Shield® TX4

Bordetella Bronchiseptica-Erysipelothrix Rhusiopathiae-Pasteurella Multocida Bacterin-Toxoid

For use in healthy swine as an aid in the prevention of atrophic rhinitis caused by *Bordetella bronchiseptica* or the toxin of *Pasteurella multocida* Types A and D, erysipelas caused by *Erysipelothrix rhusiopathiae*, and pneumonia caused by *Pasteurella multocida* Type A.

Product Number

Rhini Shield® TX4
#255 - 100 mL

■ Convenient and Economical

Rhini Shield TX4 provides four-way protection in one convenient dose. Administer a 5-mL dose to sows and gilts five and two weeks prior to farrowing. Piglets receive a 1-mL dose at 7-10 days, followed by a 2-mL dose two weeks later.

■ Composition

This bacterin contains inactivated cultures of *Bordetella bronchiseptica*, *Erysipelothrix rhusiopathiae*, *Pasteurella multocida* Type A and toxigenic *Pasteurella multocida* Type D adjuvanted with aluminum hydroxide.



Rhini Shield® TX4

DIRECTIONS: Shake well before using. Administer intramuscularly or subcutaneously. Four doses must be given (two gilt/sow doses and two piglet doses). Vaccinate gilts and sows with a 5-mL dose at 5 and 2 weeks prior to farrowing. Vaccinate piglets from vaccinated dams with a 1-mL dose at 7-10 days of age and a 2-mL dose 2 weeks later.

PRECAUTIONS: Store out of direct sunlight at 2°-7° C (35°-45° F). DO NOT FREEZE. Use entire contents when first opened. Do not vaccinate within 21 days prior to slaughter. Anaphylactic reactions may occur. Symptomatic treatment: Epinephrine.



Customer Service
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Technical disease information

Erysipelas

Erysipelothrix rhusiopathiae is the cause of swine erysipelas. Erysipelas is an infectious disease mainly of growing pigs. Although acute erysipelas causes death, the greatest economic loss probably occurs from the chronic, nonfatal forms of the disease.

Many apparently normal animals can carry and shed the organism, possibly for life. Clinical disease is usually sporadic and affects individuals or small groups, but sometimes larger outbreaks occur. With chronic cases, there may be mild to severe lameness. Typical diamond-shaped skin lesions are diagnostic.

Bordetella bronchiseptica

Bordetella bronchiseptica is a primary cause of atrophic rhinitis and pneumonia. In the case of atrophic rhinitis, *B. bronchiseptica* may act as a primary invader or may compromise the nasal epithelium so that secondary *Pasteurella* sp. organisms can invade and cause more extensive damage.

The clinical signs of atrophic rhinitis are sneezing, sniffing, rubbing the nose, black tear streaks from the eye and excessive nasal discharge. Acute signs usually appear between 3 and 8 weeks of age. The severity of atrophic rhinitis in a herd depends largely on the presence of toxigenic strains of *Pasteurella multocida*, the level of management and the immune status of the herd

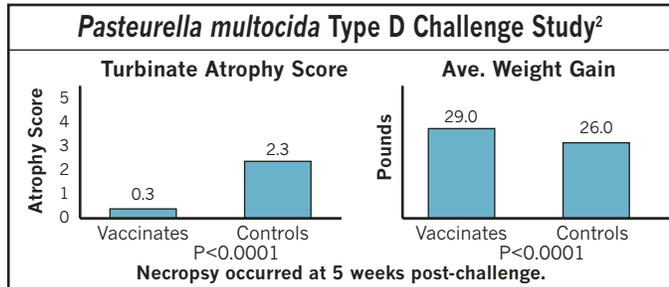
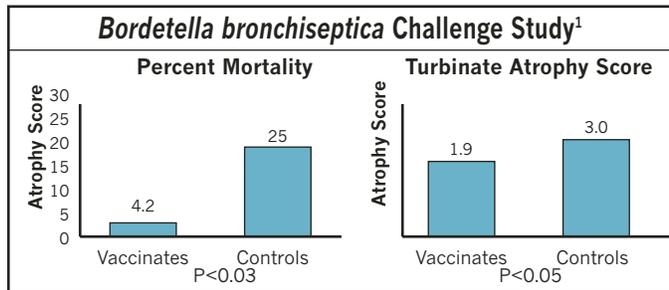
Pasteurella multocida

P. multocida is divided into two toxin-producing types – A and D. Type A is a common cause of secondary bacterial pneumonia. Lungs damaged by other causes can be invaded by *Pasteurella* sp., which causes severe pneumonia. Death losses may be high in some cases.

Toxin-producing strains of *P. multocida* Type D are an important cause of atrophic rhinitis. The bacteria release a dermonecrotxin, which results in the typical signs of atrophic rhinitis – sneezing, sniffing, teary eyes and crooked snouts. Pigs also can be stunted as the dermonecrotxin affects the growth plates of the long bones. Type D can infect older pigs and cause severe atrophic rhinitis, whereas piglets normally have to be infected with *B. bronchiseptica* within a few days after birth to develop atrophic rhinitis.

Nasal turbinates damaged by atrophic rhinitis cannot do an effective job of filtering the air, allowing more bacteria into the lungs. This, in turn, makes it more likely that the pig will develop severe pneumonia. To control these diseases, it is important to practice good management procedures. Vaccination with **Rhini Shield TX4** is an important part of the disease-control plan. In addition

to bacterin coverage against *Erysipelothrix rhusiopathiae*, *Bordetella bronchiseptica*, *Pasteurella multocida* Type A and *Pasteurella multocida* Type D, **Rhini Shield TX4** also contains a Type D toxoid shown to provide protection against the *Pasteurella multocida* toxin. By incorporating the toxoid, **Rhini Shield TX4** gives advanced atrophic rhinitis protection in a convenient vaccine combination.



Conclusions

The above data shows that **Rhini Shield TX4** provides significant coverage against the atrophic rhinitis complex, along with the convenience of vaccinating for erysipelas. Use of **Rhini Shield TX4**, in combination with correcting any shortfalls in housing and management that may be contributing factors, is effective in controlling atrophic rhinitis (caused by *B. bronchiseptica* and toxigenic *P. multocida*) in clinically affected swine herds.

1. Data on file at Novartis Animal Health US, Inc.
2. Data on file at Novartis Animal Health US, Inc.