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Quick Shield™ IN IBR-PI_3

Bovine Rhinotracheitis-Parainfluenza 3 Vaccine, Modified Live Virus

For use in healthy nonpregnant cattle as an aid in the prevention of disease caused by infectious bovine rhinotracheitis (IBR) and parainfluenza Type 3 (PI_3) viruses.

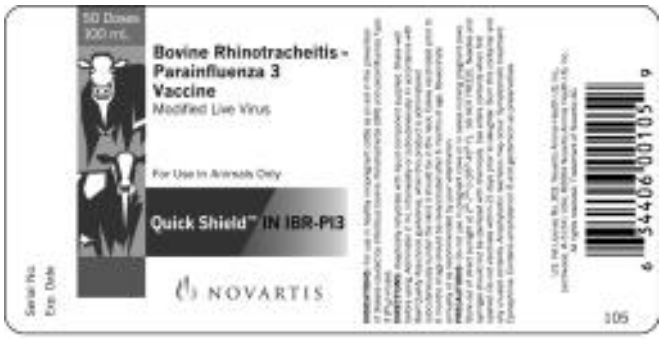
Product Numbers

Quick Shield™ IN IBR-PI_3
105 - 100 mL - 50 doses
107 - 20 mL - 10 doses

- **Two BQA Friendly Administration Routes —** Can be given intranasally or subcutaneously. The intranasal route eliminates the possiblity of any injection lesions that could cause problems with a Beef Quality Assurance program and it places the protection right at the site of infection - the nostril.
- **High Degree of Safety —** No adverse reactions were noted in field trials conducted to measure the safety of **Quick Shield IN**.
- **Non-specific Interferon —** Intranasal administration of modified live IBR vaccines has been shown to induce interferon production, which results in a non-specific antiviral response by the vaccinated animal's immune system.
- **High Efficacy Upon Challenge —** Both IBR and PI_3 virus challenge studies showed significant levels of protection in vaccinated animals when compared to non-vaccinates. Vaccinated animals shed little or no virus post-challenge and demonstrated minimal clinical signs.

Quick Shield™ IN IBR-PI_3

DIRECTIONS: Aseptically rehydrate with liquid component supplied. Shake well before using. Administer 2 mL intranasally or subcutaneously. In accordance with Beef Quality Assurance guidelines, when this product is administered subcutaneously (under the skin) it should be in the neck. Calves vaccinated prior to 6 months of age should be revaccinated after 6 months of age. Revaccinate annually or as recommended by your veterinarian.



PRECAUTIONS: Do not use in pregnant cows or calves nursing pregnant cows. Store out of direct sunlight at 2°-7°C (35°-45°F). DO NOT FREEZE. Needles and syringes should not be sterilized with chemicals. Use entire contents when first opened. Do not vaccinate within 21 days prior to slaughter. Burn containers and any unused contents. Anaphylactic reactions may occur. Contains amphotericin B and gentamicin as preservatives. Symptomatic treatment: Epinephrine.

Customer Service
(800) 843-3386

www.livestock.novartis.com

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Technical disease information

IBR (Infectious Bovine Rhinotracheitis)

IBR is caused by bovine herpes virus Type 1(BHV-1), which was originally identified as causing genital herpes in cattle. As consolidation into larger herds occurred, the virus developed a preference for the upper respiratory tract while remaining capable of causing reproductive disease.

In the early stages of IBR, animals go off feed, become listless, and show drainage of clear secretions from the eyes and nose. Milk production in dairy cows drops severely. Temperatures range from 105˚-108˚F. As the disease progresses, eye and nasal discharge become thick and filled with pus and breathing becomes labored.

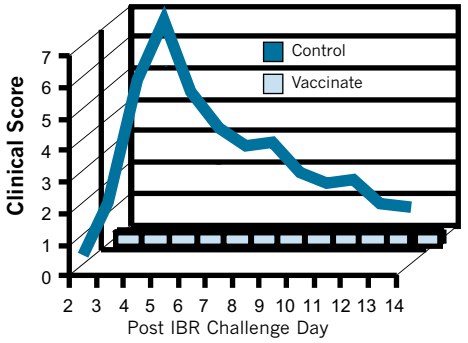
If uncomplicated, the illness lasts only 5-10 days. Usually secondary viral and bacterial infections result in advanced BRD (bovine respiratory disease). Postmortem examination of respiratory tract linings of animals that die of IBR shows severe inflammation.

The first sign of IBR in your herd may be severe conjunctivitis. Eyes become red and swollen, and heavy tearing develops into a thick, pus-filled discharge. The cornea of the eye may develop cloudiness around the outer edges.

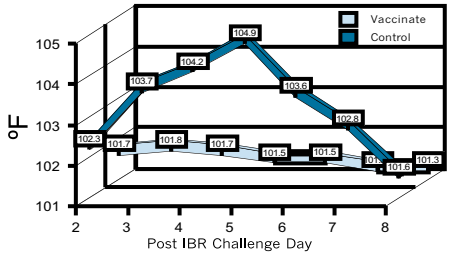
SUMMARY OF IBR EFFICACY DATA

Treatment	Total Average Clinical Score	Temp (>103.5˚F) #Animals/Total	Virus Shedding #Animals/Total
Vaccinate	0.15	0/30	1/30
Control	30.67	18/18	18/18
p value	<0.0001	<0.0001	<0.0001

Average Daily Clinical Score – IBR Challenge



Average Daily Temperature-IBR Intranasal Challenge Study



Infertility has commonly been associated with IBR infection. Abortions, too, are common and may occur shortly after initial symptoms or up to four months following infection. Mummified fetuses, stillbirths, and weak calves commonly result from IBR virus infection.

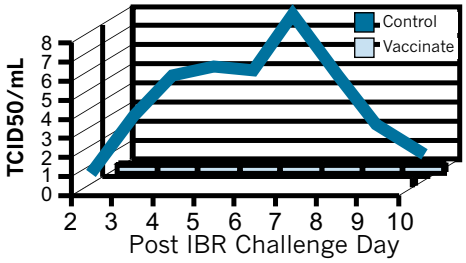
PI_3 (Parainfluenza Type 3)

While PI_3 virus infection alone causes only a mild respiratory disease, it is frequently isolated with other pathogens in severe BRD cases.

PI_3 virus destroys the cilia of the lungs (tiny, hair-like projections that help clear foreign material) and triggers inflammation of the lung passageways, which impairs oxygen exchange. It sets the stage for infection by other BRD pathogens. Its role in BRD and its apparent association with secondary bacterial infection (primarily *Mannheimia haemolytica*) should never be underestimated.

Prevention of these diseases involves a complete management program which includes vaccination. **Quick Shield IN** has been shown to significantly reduce the clinical signs associated with IBR and PI_3 infections. Animals receive one, 2 mL dose intranasally or subcutaneously, with an annual revaccination.

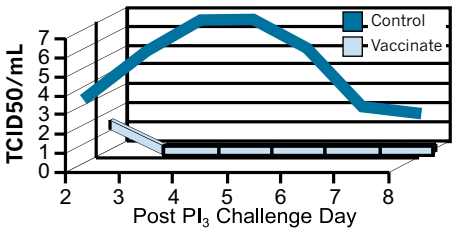
Average IBR Virus Shed Post Challenge



SUMMARY OF PI_3 EFFICACY DATA

Treatment	Total Average Clinical Score	Virus Shedding #Animals/Total
Vaccinate	3	3/20
Control	9	11/11
p value	<0.0001	<0.0001

Average PI_3 Virus Shed Post Challenge



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