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Scour Bos™ 4

Bovine Rota-Coronavirus Vaccine, Killed Virus

For use in healthy pregnant cattle as an aid in the prevention of disease in calves caused by bovine rotavirus and bovine coronavirus.

Product Numbers

Scour Bos™ 4
248 - 20 mL - 10 doses
249 - 100 mL - 50 doses

- **Flexible Scheduling —**
  Year 1:
  - Give an initial dose of Scour Bos 4 up to 16 weeks pre-calving
  - Follow with a dose of Scour Bos 4, four weeks pre-calving

  Year 2 and beyond:
  - Give a Scour Bos 4 booster dose 8-10 weeks pre-calving

- **Multiple Field Isolates Provide Superior Passive Protection to the Calf** — Calves receiving colostrum from dams vaccinated with **Scour Bos 4** showed impressive levels of protection against two major viral causes of neonatal calf scours - rotavirus and coronavirus. This high level of protection was seen even after challenge with heterologous strains of rotavirus and coronavirus. **Three strains of rotavirus and one coronavirus** make this possible. Antigens related to all common G and P types of rotavirus encountered in the USA are provided in this vaccine.

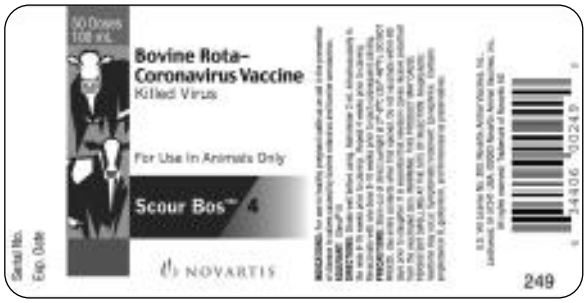
- **Exclusive Adjuvant** — **Scour Bos 4** is formulated with Novartis' exclusive Xtend® III adjuvant. Xtend has been proven to produce cell-mediated immunity, long-term duration of protection, and resistance to antibody interference in Novartis' Vira Shield® line of products.

Scour Bos™ 4

ADJUVANT: Xtend® III

DIRECTIONS: Shake well before using. Administer 2 mL intramuscularly in the neck 8-16 weeks prior to calving. Repeat 4 weeks prior to calving. Revaccinate with one dose 8-10 weeks prior to each subsequent calving.

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 60 days prior to slaughter. It is essential that newborn calves receive colostrum from the vaccinated dam. WARNING: THIS PRODUCT MAY CAUSE PERSISTENT SWELLING AT THE SITE OF INJECTION. Anaphylactic reactions may occur. Symptomatic treatment: Epinephrine. Contains amphotericin B, penicillin, streptomycin, and thimerosal as preservatives.



Customer Service
(800) 843-3386

www.livestock.novartis.com

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Technical disease information

Coronavirus

Coronavirus causes one of the most severe viral diarrheas of neonatal calves. It may produce complete villus atrophy of the intestine. It is found worldwide and produces a severe diarrhea with dehydration and moderate mortality. A dual infection with rotavirus or *E. coli* can escalate the disease. Affected calves are extremely depressed but they often continue nursing. Coronavirus is also capable of infecting lung tissues and may produce respiratory signs. Calves most commonly affected with coronavirus diarrhea range in age from 5-21 days. Diarrhea usually lasts 4-5 days. Affected calves are the main source of infection to other calves, but evidence indicates that some recovered calves and cows will continue to carry virus and serve as long-term reservoirs for the virus.

Rotavirus

Bovine rotavirus diarrhea is found worldwide. Rotaviral diarrhea results from replication of the virus in villus enterocytes of the small intestine. Clinical signs range from mild to severe diarrhea which results in dehydration, depression, and sometimes death. A high incidence of rotaviruses has been detected in scouring calves on both beef and dairy farms and ranches. The disease occurs most frequently within the first two weeks of life. The severity of the disease is often worse in calves co-infected with other enteropathogens.

The most common G serotypes of group A rotaviruses affecting calves are G6 and G10. Three P serotypes (genotypes) have been identified in calves with diarrhea: P6 [1], P7 [5] and P8 [11]. Novartis' vaccine contains three field isolates of bovine rotavirus, group A, that encompass all of the common G and P types encountered in the United States. The virulent bovine rotavirus challenge used in the efficacy study also contained bovine rotavirus group A with G8 genotype. Results from this study show protection to this type as well, which is useful since G8 appears to be emerging as a prevalent genotype.

Treatment

Treatment for rotavirus and coronavirus enteritis consists of maintaining hydration and electrolyte balance through the use of fluids administered either orally or intravenously. It is important to maintain calves on milk, since electrolyte fluids alone cannot supply all the nutrition a calf requires. The use of appropriate antibiotics is also employed to control secondary bacterial infections.

Prevention

Preventing viral diarrhea requires careful management of the dam, the environment, and the calf. The most important step in the program is immunization of the dam with an effective vaccine. This will result in high levels of maternal antibodies that are passed to the calf in the colostrum that it receives after birth. **Scour Bos 4** is the ideal vaccine because it provides heterologous coverage for multiple rotavirus and coronavirus serotypes. It requires two doses the first year; thereafter it requires only a single annual vaccination to the cow prior to calving.

It is vital that herds are managed to insure that all calves receive adequate levels of colostrum within the first critical hours (0-6) after birth. On severely contaminated premises, it may also be necessary for dairy calves to continue receiving milk from vaccinated cows, free of Johne's disease, until they have passed the susceptible age.

Coronavirus Challenge

Group	Geometric Mean Titers		Dehydration Difference	Depression Difference	Clinical Difference
	Calf Serum	Dam Colostrum			
Vaccinates	2.5X increase	4X increase	p=0.0004	p=0.0005	p=0.0003
Controls	baseline	baseline	STATISTICALLY SIGNIFICANT		

Rotavirus Challenge

Group	Geometric Mean Titers		Dehydration Difference	Depression Difference	Clinical Difference
	Calf Serum	Dam Colostrum			
Vaccinates	13X increase	7X increase	p=0.0004	p=0.0002	p=0.0005
Controls	baseline	baseline	STATISTICALLY SIGNIFICANT		

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