

## Bovine Rota-Coronavirus Vaccine

### **Modified Live Virus**

#### Calf-Guard<sup>®</sup>

**PRODUCT DESCRIPTION:** Calf-Guard is for vaccination of healthy newborn calves or pregnant cows as an aid in preventing diarrhea (scours) caused by bovine rotavirus and bovine coronavirus. Calf-Guard contains attenuated strains of bovine rotavirus and bovine coronavirus propagated on established cell lines and freeze-dried to preserve stability.

**DISEASE DESCRIPTION:** Neonatal calf diarrhea has a complex etiology, but bovine rota- and coronavirus have been found to be 2 of its most common causative agents.<sup>1-3</sup> Experimental studies have demonstrated that either virus can initiate calf diarrhea.<sup>4-5</sup> Viral diarrhea is often complicated by secondary infection with *Escherichia coli* or other enteric pathogens.

**SAFETY AND EFFICACY:** Immunization must precede natural exposure in order to be effective. Thus, immunization during the first 24 hours of life, the earlier the better, is strongly recommended. Data indicates that the effectiveness of Calf-Guard declines when some animals in a herd are left unprotected.<sup>6</sup> In such cases, infected calves may seed the premises with virus, and expose other calves prior to immunization. All calves should be vaccinated for best results. Vaccination with Calf-Guard may be accomplished by oral vaccination of calves at birth, or by intramuscular vaccination of cows during pregnancy; vaccinated cows provide immunity to their calves via protective antibodies transmitted in colostrum and milk.

Calf-Guard was evaluated in field studies where calves in 21 herds and cows in 5 herds were vaccinated and compared with nonvaccinated calves and calves from nonvaccinated cows during corresponding test periods. Incidence of scours was 25.7% among 1,598 vaccinated calves, while incidence among 1,035 nonvaccinated calves was 47.8%. Death loss from scours was 2.9% among vaccinated calves and 19.0% among nonvaccinated calves. Among 2,927 calves from vaccinated cows, incidence of scours was 11.3%, with 0.9% death loss. In contrast, 21.7% of 2,801 calves from nonvaccinated cows developed scours, and death loss was 4.1%. These results indicate that vaccination with Calf-Guard significantly reduces incidence and death loss from neonatal calf diarrhea. Because the disease has a variety of causes, however, the vaccine should not be expected to entirely eliminate its occurrence.

Experimental calves remained normal following oral administration of Calf-Guard, and adverse reactions in vaccinated calves were not reported during extensive field trials. Similarly, in field trials with vaccinated pregnant cows, abortions or other adverse reactions were not reported.

#### **DIRECTIONS:**

1. *General Directions:* Vaccination of healthy newborn calves or pregnant cows is recommended. Aseptically rehydrate the freeze-dried vaccine with the sterile diluent provided, shake well, and administer 3 mL without delay.
2. *Calf Vaccination:* Remove needle from syringe and administer a single 3-mL dose into the back of the calf's mouth. Vaccination should occur as soon as possible after birth because susceptible calves are at risk as soon as they are born. Vaccination of calves older than 1 day may not be effective.
3. *Cow Vaccination:* Healthy cows should receive 2 intramuscular doses administered 3-6 weeks apart during late pregnancy. Ideally, the second dose should be administered within 30 days prior to calving. In accordance with Beef Quality Assurance guidelines, this product should be administered in the muscular region of the neck.

4. *Cow Revaccination*: Cows should be revaccinated with 2 doses during each subsequent pregnancy.
5. Good animal husbandry and herd health management practices should be employed.

**PRECAUTIONS:**

1. Store at 2°–7°C. Prolonged exposure to higher temperatures and/or direct sunlight may adversely affect potency. Do not freeze.
2. Use entire contents when first opened.
3. Sterilized syringes and needles should be used to administer this vaccine. Do not sterilize with chemicals because traces of disinfectant may inactivate the vaccine.
4. Burn containers and all unused contents.
5. Do not vaccinate within 21 days before slaughter.
6. Contains gentamicin as preservative.
7. As with many vaccines, anaphylaxis may occur after use. Initial antidote of epinephrine is recommended and should be followed with appropriate supportive therapy.
8. This product has been shown to be efficacious in healthy animals. A protective immune response may not be elicited if animals are incubating an infectious disease, are malnourished or parasitized, are stressed due to shipment or environmental conditions, are otherwise immunocompromised, or the vaccine is not administered in accordance with label directions.

**REFERENCES:**

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Technical inquiries should be directed to Pfizer Animal Health Veterinary Services, (800) 366-5288 (USA), (800) 461-0917 (Canada).

For veterinary use only

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