

VANGUARD® B ORAL

THE CONVENIENT CHOICE



This *Bordetella bronchiseptica* vaccine helps provide protection by stimulating a mucosal immune response.

- Convenient and easy to administer for veterinary staff
- First *Bordetella* oral vaccine with USDA-Approved full-year Duration of Immunity
- Demonstrated 7-day onset of immunity in a controlled challenge study¹
- Safety and efficacy demonstrated in laboratory and field safety studies
- 1 mL dose may be administered with a syringe or syringe-free applicator
- Easy open caps perfect for a busy practice



Canine Infectious Respiratory Disease Complex (CIRDC) - Prevent the Preventable

CIRDC is caused by many bacteria and viruses. *Bordetella bronchiseptica* is a commonly encountered bacterial pathogen in the disease complex that often leads to clinical signs of respiratory disease in dogs.

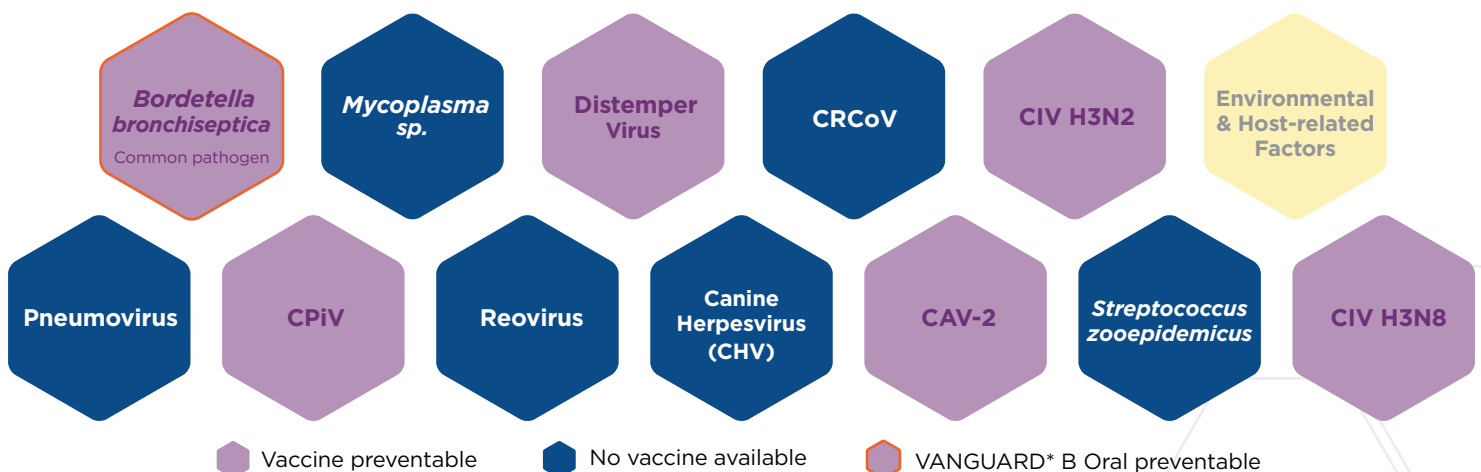


Syringe



Syringe-free Applicator

Etiology of CIRDC²⁻⁷



EFFICACY & SAFETY

EFFICACY STUDY⁸

Efficacy was measured by observation of coughing in **two** consecutive periods.

Group	Vaccine	n	Bordetella bronchiseptica			
			Study Day	Route	Study Day	Route
TO1	None	16	0	PO	21	Aerosol Challenge
TO2	VANGUARD® B Oral	16				

CLINICAL OBSERVATIONS

Dogs were evaluated for **28** days after challenge for clinical signs of respiratory disease including cough, nasal discharge, sneeze, ocular discharge, retch, depression, respiration and fever.

RESULTS

- The vaccine **significantly reduced coughing**, $p=0.0020$ in comparison to the controls
- Challenge resulted in **two** consecutive coughs in 75% of the controls, indicating challenge was successful
- 100% of control dogs coughed in multiple (not necessarily consecutive) periods after the challenge
- No adverse events** were noted during the study

SAFETY STUDY⁹

Out of 321 client-owned dogs enrolled, ONE was reported to have had a brief self-limiting episode of vomiting within the 15-minute post-vaccination period.

REFERENCES

1. Data on file, Study Report No. B862R-US-21-511, Zoetis Inc.
2. Datz C. Bordetella infections in dogs and cats: pathogenesis, clinical signs, and diagnosis. *Compend Contin Educ Pract Vet.* 2003a;25(12):896-901.
3. Datz C. Bordetella infections in dogs and cats: pathogenesis, clinical signs, and diagnosis. *Compend Contin Educ Pract Vet.* 2003b;25(12):902-914.
4. Ford RB. Bordetella bronchiseptica: beyond kennel cough. In: Bonagura JD, Twedt DC, eds. *Kirk's Current Veterinary Therapy XIV*. St. Louis, MO: WB Saunders-Elsevier; 2009:646-649.



LATE PHASE POST-VACCINATION PERIOD OBSERVATIONS (15 minutes to 14 days)

Clinical signs associated with abnormal health event	Percent of animals (n=321)
Diarrhea	2.49%
Emesis	1.56%
Lethargy	0.93%
Anorexia	0.62%
Pyrexia	0.62%
Retching	0.62%
Alopecia	0.31%
Dermatitis	0.31%
Fungal Skin Infection	0.31%
Skin Edema	0.31%
Uveitis	0.31%



Backed by the Zoetis Immunization Support Guarantee

5. Chalker VJ, Toomey C, Opperman S, et al. Respiratory disease in kennelled dogs: serological responses to Bordetella bronchiseptica lipopolysaccharide do not correlate with bacterial isolation or clinical respiratory symptoms. *Clin Diagn Lab Immunol.* 2003;10(3):352-356.
6. Keil DJ, Fenwick B. Role of Bordetella bronchiseptica in infectious tracheobronchitis in dogs. *J Am Vet Med Assoc.* 1998;212(2):200-207.
7. Ford RB. Canine infectious tracheobronchitis. In: Greene CE, ed. *Infectious Diseases of the Dog and Cat*. 3rd ed. St. Louis, MO: WB Saunders-Elsevier; 2006:54-61.
8. Data on file, Study Report No. B862R-US-14-129, Zoetis Inc.
9. Data on file, Study Report No. B961R-US-14-167, Zoetis Inc.