## Canine Vaccines You Can Count On.

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Antigen</th>
<th>Diluent</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vanguard® Plus 5 LC CV</td>
<td>Distemper-MLV, Adenovirus Type 2-MLV, Parainfluenza-MLV, Parvovirus-MLV, Leptospira canicola, L. grippotyphosa, L. icterohaemorrhagiae, L. pomona Bacterin</td>
<td>Coronavirus-Killed</td>
<td>25 X 1-dose</td>
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<tr>
<td>Vanguard® Plus 5 LC</td>
<td>Distemper-MLV, Adenovirus Type 2-MLV, Parainfluenza-MLV, Parvovirus-MLV, Leptospira canicola, L. grippotyphosa, L. icterohaemorrhagiae, L. pomona Bacterin</td>
<td>Sterile Gel Diluent</td>
<td>25 X 1-dose</td>
</tr>
<tr>
<td>Vanguard® L4</td>
<td>Leptospira canicola, L. grippotyphosa, L. icterohaemorrhagiae, L. pomona Bacterin</td>
<td>Sterile Gel Diluent</td>
<td>25 X 1-dose</td>
</tr>
<tr>
<td>Vanguard® Plus 5</td>
<td>Distemper-MLV, Adenovirus Type 2-MLV, Parainfluenza-MLV, Parvovirus-MLV</td>
<td>Sterile Diluent</td>
<td>25 X 1-dose</td>
</tr>
<tr>
<td>Vanguard® Plus CPV</td>
<td>Parvovirus-MLV</td>
<td>None</td>
<td>50 X 1-dose</td>
</tr>
<tr>
<td>Vanguard® Plus 5/CV</td>
<td>Distemper-MLV, Adenovirus Type 2-MLV, Parainfluenza-MLV, Parvovirus-MLV</td>
<td>Coronavirus-Killed</td>
<td>25 X 1-dose</td>
</tr>
<tr>
<td>Vanguard® DAMP</td>
<td>Distemper-MLV, Adenovirus Type 2-MLV, Measles-MLV, Parainfluenza-MLV</td>
<td>Sterile Diluent</td>
<td>25 X 1-dose</td>
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<tr>
<td>Vanguard® DAP</td>
<td>Distemper-MLV, Adenovirus Type 2-MLV, Parainfluenza-MLV</td>
<td>Sterile Diluent</td>
<td>25 X 1-dose</td>
</tr>
<tr>
<td>Vanguard® CV</td>
<td>Coronavirus-Killed</td>
<td>None</td>
<td>50 x 1-dose</td>
</tr>
<tr>
<td>Bronchicine® CAe</td>
<td>Bordetella bronchiseptica — Bacterin cellular antigen extract</td>
<td>None</td>
<td>5 X 10-dose</td>
</tr>
<tr>
<td>Vanguard®-B</td>
<td>Bordetella bronchiseptica — Avirulent live culture</td>
<td>Sterile Diluent</td>
<td>25 X 1-dose</td>
</tr>
<tr>
<td>Porphyromonas Denticanis-Gulae-Salivosa Bacterin*†</td>
<td>Porphyromonas denticanis, P. gulae, P. salivosa Bacterin</td>
<td>None</td>
<td>25 X 1-dose</td>
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<tr>
<td>Defensor® 1</td>
<td>Rabies-Killed</td>
<td>None</td>
<td>50 X 1-dose</td>
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<tr>
<td>Defensor® 3</td>
<td>Rabies-Killed</td>
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<td>50 X 1-dose</td>
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<tr>
<td>Defensor® 3 (California)</td>
<td>Rabies-Killed</td>
<td>None</td>
<td>50 X 1-dose</td>
</tr>
</tbody>
</table>

* Not covered by the Immunization Support Guarantee:
Porphyromonas Denticanis-Gulae-Salivosa Bacterin
Defensor 1
Defensor 3
Defensor 3 (California)
† Notice: This product license is conditional. Efficacy and/or potency of this product have not been fully demonstrated, consultation with a veterinarian is recommended.
Confidence Based in Science. Peace of Mind with Unequaled Support.

Pfizer canine vaccines are backed by rigorous testing and most are backed by our immunization support guarantee, so you can vaccinate with the utmost confidence.

Quality Vaccines.

Pfizer canine vaccines are thoroughly tested and paired in the combinations you need most.

What You Need, All in One Place.

The breadth of the Pfizer line ensures that you can get everything you need to help protect your patients from one easy source.

Documented by Peer-Reviewed Data and Published in the Journal of the American Veterinary Medical Association

Unbiased Results: Serologic assays performed by prestigious outside laboratory (Cornell) blinded to the vaccination history of each animal

Demonstrated Performance: Vanguard produced a consistent serologic response, often lasting up to and beyond 48 months for all 5 key antigens evaluated

Vanguard: The canine vaccines with peer-reviewed, published and labeled serology data

Pfizer Vanguard Leptospirosis Vaccines

Vanguard Plus 5 L4 CV, Vanguard Plus 5 L4, Vanguard L4

ANTIGENS

<table>
<thead>
<tr>
<th></th>
<th>Vanguard® Plus 5 L4 CV</th>
<th>Vanguard® Plus 5 L4</th>
<th>Vanguard® L4</th>
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<tbody>
<tr>
<td>Canine Parvovirus</td>
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</tr>
<tr>
<td>Canine Distemper</td>
<td>•</td>
<td></td>
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<tr>
<td>Canine Parainfluenza</td>
<td>•</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canine Adenovirus Type 2</td>
<td>•</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canine Leptospira canicola, L. grippotyphosa, L. icterohaemorrhagiae, L. pomona Bacterin</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Canine Coronavirus</td>
<td>•</td>
<td></td>
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</tr>
</tbody>
</table>

Advantages

- Safety documented by large-scale multicenter study.
- Duration of serologic response supported by peer-reviewed and published data.¹
- The Leptospirosis fraction is microfiltered 5 times for antigen purity and smoothness.
- The Vanguard® Plus 5 vaccines feature a high-titer/low-passage canine parvovirus fraction, which is highly immunogenic and capable of stimulating active immunity in the presence of maternal antibodies.
- Helps provide protection against the 4 most common strains of Leptospirosis: L. canicola, L. grippotyphosa, L. icterohaemorrhagiae, and L. pomona.

Safety and Efficacy

Shown safe for dogs as young as 6 weeks of age in laboratory tests and in clinical trials under field conditions.

Evidence-based performance of the viral antigens based on retrospective serological studies.¹

Dosage and Administration

**General Directions:** Vaccination of healthy dogs 6 weeks of age or older is recommended. Aseptically rehydrate the freeze-dried vaccine fraction, shake well, and administer 1 mL subcutaneously or intramuscularly.

**Primary Vaccination:** Healthy dogs should receive 2 doses administered 3-4 weeks apart, followed by a single dose of Vanguard CV three weeks later when using Vanguard Plus 5 L4 CV.

**Revaccination:** Annual revaccination with a single dose is recommended.

**Recommendations:** The American Animal Hospital Association (AAHA) 2006 Vaccine Guidelines state that vaccination for Leptospira should be restricted to use in areas where a reasonable risk of exposure has been established.1

**The Pfizer Guarantee:** Pfizer’s Immunization Support Guarantee provides ONE year of coverage for all reasonable diagnostic and treatment costs up to $5000 if a pet vaccinated with one of the Pfizer Leptospira antigens contracts the corresponding disease.

Precautions

Store at 2°C to 7°C. Prolonged exposure to higher temperatures and/or direct sunlight may adversely affect potency. Do not freeze. Use entire contents when first opened. Sterilized syringes and needles should be used to administer this vaccine. Do not sterilize with chemicals because traces of disinfectant may inactivate the vaccine. Burn containers and all unused contents. Contains gentamicin as preservative. Vaccination of pregnant bitches should be avoided. In case of anaphylaxis, administer epinephrine or equivalent.

Product Information

Customer-friendly packaging includes peel-off labels to make record-keeping faster and more accurate, a color-coded organizing system and an easy-open safety band.

**Product Codes:**
- Vanguard Plus 5 L4 CV - 5179
- Vanguard Plus 5 L4 - 5180
- Vanguard L4 - 5181

Pfizer Immunization Support Guarantee

Pfizer core vaccines may be used in extended duration protocols as recommended by the American Animal Hospital Association and the American Association of Feline Practitioners. In addition to providing immunization support for the full three years, Vanguard and Felocell are covered by an extra year of support because they provide long-term serologic performance demonstrated by four years of serology data. No other vaccines offer that level of support.
**Advantages**

- The PLUS in Vanguard Plus vaccines refers to the high-titer/low-passage canine parvovirus (CPV) fraction, which is highly immunogenic and capable of stimulating active immunity in the presence of maternal antibodies.
- The parvovirus strain in the Vanguard Plus vaccine line has been shown to help protect against challenge with CPV-2c.\(^1\)
- AAHA 2006 Vaccination Guidelines state that products with CPV-2, regardless of genotype (ie, CPV-2, 2a or 2b), provide excellent protection against field isolates.\(^2\)
- The CAV-2 strain in Vanguard Plus vaccines cross-immunizes against CAV-1 to help protect dogs against ICH without producing post-vaccination side effects, including uveitis and corneal opacity, sometimes attributed to CAV-1 vaccines.

**Safety and Efficacy**

Field trials of Vanguard Plus vaccines showed them to be safe in dogs as young as 6 weeks of age under normal usage conditions.

**Dosage and Administration**

**Vanguard Plus 5 and Vanguard Plus CPV**

**General Directions:** Vaccination of healthy dogs is recommended. Aseptically rehydrate the freeze-dried vaccine with the sterile diluent provided, shake well, and administer 1 mL subcutaneously or intramuscularly.

**Primary Vaccination:** Healthy dogs 6 weeks of age or older should receive 3 doses, each administered 3 weeks apart.

**Revaccination:** Annual revaccination with a single dose is recommended, although, as recommended by the American Veterinary Medical Association and its Council on Biologic and Therapeutic Agents, the attending veterinarian should determine the frequency of revaccination based on the animal’s lifestyle and risk of exposure.\(^3\)

**The Pfizer Support Guarantee:** Pfizer’s Immunization Support Guarantee provides coverage for all reasonable diagnostic and treatment costs up to $5000 if a pet vaccinated with one of the antigens in our Pfizer Vanguard Plus Vaccines contracts the corresponding disease.

**Vanguard Plus 5/CV**

**General Directions:** Vaccination of healthy dogs is recommended. Aseptically rehydrate the freeze-dried vaccine (Vanguard Plus 5) with the accompanying vial of liquid vaccine (Vanguard CV), shake well, and administer 1 mL subcutaneously or intramuscularly.

**Primary Vaccination:** Healthy dogs 6 weeks of age or older should receive 3 doses, each administered 3 weeks apart.

**Revaccination:** Annual revaccination with a single dose is recommended, although, as recommended by the American Veterinary Medical Association and its Council on Biologic and Therapeutic Agents, the attending veterinarian should determine the frequency of revaccination based on the animal’s lifestyle and risk of exposure.\(^3\)

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Seroconversion to canine parvovirus (CPV) in maternally immune puppies vaccinated with Vanguard Plus

<table>
<thead>
<tr>
<th>Test Group</th>
<th>No.</th>
<th>Mean pre-vaccination SN titer (range)†</th>
<th>Mean post-vaccination SN titers†</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1st dose</td>
<td>2nd dose</td>
</tr>
<tr>
<td>All vaccinates</td>
<td>25</td>
<td>24 (&lt; 2 - 256)</td>
<td>108</td>
</tr>
<tr>
<td>1st dose responders</td>
<td>13</td>
<td>6 (&lt; 2 - 64)</td>
<td>460</td>
</tr>
<tr>
<td>2nd dose responders</td>
<td>9</td>
<td>87 (16 - 256)</td>
<td>20</td>
</tr>
<tr>
<td>3rd dose responders</td>
<td>3</td>
<td>128 (128)</td>
<td>32</td>
</tr>
<tr>
<td>Nonvaccinated controls</td>
<td>25</td>
<td>64 (4 - 1024)</td>
<td>9</td>
</tr>
</tbody>
</table>

† Reciprocal of serum neutralization titer

The ability of the CPV component in Vanguard Plus vaccines to overcome serum neutralization (SN) titers associated with maternal antibodies was demonstrated in a test of 25 vaccinated puppies. Puppies were vaccinated at 6, 9 and 12 weeks of age. As shown in the table, 13 of 25 vaccinated puppies seroconverted (ie responded with a 4-fold or greater increase in SN titer) after receiving 1 dose. Nine other puppies seroconverted after the 2nd dose, and all 25 vaccinates, some with pre-vaccination titers as high as 1:256, responded after 3 doses.

**Precautions**

Store at 2°C to 7°C. Prolonged exposure to higher temperatures and/or direct sunlight may adversely affect potency. Do not freeze. Use entire contents when first opened. Sterilized syringes and needles should be used to administer this vaccine. Do not sterilize with chemicals because traces of disinfectant may inactivate the vaccine. Burn containers and all unused contents. Contains gentamicin as preservative. Vaccination of pregnant bitches should be avoided. As with many vaccines, anaphylaxis may occur after use. Initial antidote of epinephrine is recommended and should be followed with appropriate supportive therapy. 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.

**Product Information**

Customer-friendly packaging includes peel-off labels to make record-keeping faster and more accurate, a color-coded organizing system and an easy-open safety band.

**Product Codes:**

- Vanguard Plus 5 - 5303
- Vanguard Plus CPV - 5300
- Vanguard Plus CPV (10 dose) - 5301
- Vanguard Plus 5/CV - 5305
Pfizer Protocol-Specific Canine Vaccines

Vanguard DAMP, Vanguard DAP, Vanguard CV

<table>
<thead>
<tr>
<th>ANTIGENS</th>
<th>Vanguard® DAMP</th>
<th>Vanguard® DAP</th>
<th>Vanguard® CV</th>
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<tbody>
<tr>
<td>Canine Coronavirus</td>
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<td>Canine Distemper</td>
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<td>Canine Parainfluenza</td>
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<tr>
<td>Measles</td>
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<td></td>
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<tr>
<td>Canine Adenovirus Type 2</td>
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</tbody>
</table>

Protocol-specific vaccines are administered more selectively than recommended core vaccines based on individualized medical decisions that take into account a risk/benefit ratio based on the dog’s geographic location, lifestyle and medical history.

**Advantages**

- Vanguard® DAMP features a measles virus that helps stimulate active cross-immunity against canine distemper (CD) virus in puppies as young as 6 weeks of age regardless of levels of maternal antibodies that interfere with active CD virus immunization.
- The CAV-2 featured in both Vanguard DAMP and Vanguard DAP cross-immunizes against canine adenovirus-1 (CAV-1) to help protect dogs against infectious canine hepatitis (ICH) without producing post-vaccination side effects, including uveitis and corneal opacity, sometimes associated with CAV-1 vaccines.
- Highly specialized vaccines that allow for tailored protocols.

**Safety and Efficacy**

**Vanguard DAMP**

Dogs vaccinated with Vanguard DAMP were immunized against CD, ICH, canine adenovirus-2 (CAV-2) respiratory disease, and canine parainfluenza (CPI), demonstrating that no significant immunologic interference existed among the vaccine fractions. No adverse reactions to DAMP vaccination were observed in any of the test dogs.

A combined CD and measles virus vaccine increases the probability of protecting puppies against CD during the period when they commonly carry maternal antibodies. One study showed that 45/67 experimental dogs at 6 weeks of age had maternal antibody levels sufficient to interfere with active immunization. When vaccinated with a combination distemper-measles vaccine at 6 weeks of age, 63/67 puppies (94%) were protected, 42 of them by the measles virus fraction.1

Pfizer Protocol-Specific Canine Vaccines (continued)

**Vanguard DAMP** (continued)

Use of measles vaccine in adult bitches may produce high levels of measles antibodies that can interfere with successful protection of puppies in the next generation. Thus, Vanguard DAMP is recommended for use in puppies 6-12 weeks of age. Heterotypic immunity should not be relied on for protection after 16 weeks of age.

It has been demonstrated that CAV-2 vaccine cross-protects against ICH caused by CAV-1. The CAV-2 strain in Vanguard vaccines is used as a replacement for CAV-1 because it has advantages. Some CAV-1 vaccines may produce undesirable reactions, including persistent kidney infections, uveitis, and corneal opacity (“blue eye”), which have not been reported after vaccination with CAV-2.\(^1\) In addition, the CAV-2 strain used in Vanguard vaccines has been specially selected for freedom from oncogenic properties characteristic of adenoviruses.

Studies demonstrated that the CAV-2 fraction in Vanguard DAMP not only protects against ICH, but against CAV-2 respiratory disease as well.\(^2\)

**Vanguard DAP**

Efficacy was demonstrated in challenge of immunity studies where vaccinated dogs were protected against virulent CD virus. Following challenge with a virulent CD virus, 95% of the vaccinated dogs remained healthy. In contrast, all nonvaccinated control dogs developed clinical signs of CD, and 80% died.

Safety was confirmed in laboratory and field trials involving more than 15,000 dogs. No significant post-vaccination reactions attributable to the vaccine were reported.

**Vanguard CV**

Safety of Vanguard CV was assessed in a field trial in which 5,999 doses were administered.

Post-vaccination reactions were observed in only 0.78% of dogs.

Efficacy of Vanguard CV was demonstrated in a challenge study of 6- to 7-week old puppies. Twenty puppies were vaccinated by the subcutaneous route with 2 doses given 21 days apart. They and 10 nonvaccinated control puppies were challenged 3 weeks later with virulent CCV. Following challenge, vaccinated dogs experienced significant differences in reduction of clinical signs, including diarrhea and in viral shedding vs the control group. There was a significant reduction of IFA detectable CCV antigen detected in the intestine at 19 days post-challenge in vaccinates compared to the control group. Serological responses of vaccinates were equal to or higher than the control group.

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Dosage and Administration

**Vanguard DAMP**

*General Directions:* Vaccination of healthy dogs 6-12 weeks of age is recommended. Aseptically rehydrate the freeze-dried vaccine with the sterile diluent provided, shake well, and administer 1 mL intramuscularly.

*Primary Vaccination:* Administer a single 1 mL dose to healthy dogs between 6 and 12 weeks of age.

*Revaccination:* Dogs should be revaccinated at 14-16 weeks of age with a canine distemper, canine adenovirus type 2, and canine parainfluenza vaccine. In most cases, a complete immunization program will also include vaccination for canine parvovirus, *Leptospira canicola*, *L. grippotyphosa*, *L. icterohaemorrhagiae*, and *L. pomona*. Annual revaccination with a single dose against any or all of these pathogens is recommended, although, as recommended by the American Veterinary Medical Association and its Council on Biologic and Therapeutic Agents, the attending veterinarian should determine the frequency of revaccination based on the animal’s lifestyle and risk of exposure.¹

**Vanguard DAP — the only DAP vaccine combo in the market**

*General Directions:* Vaccination of healthy dogs is recommended. Aseptically rehydrate the freeze-dried vaccine with the sterile diluent provided, shake well, and administer 1 mL subcutaneously or intramuscularly.

*Primary Vaccination:* Healthy dogs should receive 2 doses administered 3-4 weeks apart. If dogs are vaccinated before the age of 4 months, they should be revaccinated upon reaching 4 months of age. (Maternal antibodies may interfere with development of an adequate immune response in puppies less than 4 months old.)

*Revaccination:* Annual revaccination with a single dose is recommended, although, as recommended by the American Veterinary Medical Association and its Council on Biologic and Therapeutic Agents, the attending veterinarian should determine the frequency of revaccination based on the animal’s lifestyle and risk of exposure.¹

**Vanguard CV**

*General Directions:* Vaccination of healthy dogs is recommended. Shake well. Aseptically administer 1 mL subcutaneously or intramuscularly.

*Primary Vaccination:* Healthy dogs 6 weeks of age or older should receive 2 doses administered 2-3 weeks apart. If dogs are vaccinated before the age of 4 months, they should be revaccinated with a single dose upon reaching 4 months of age. (Maternal antibodies may interfere with development of an adequate immune response in puppies less than 4 months old.)

*Revaccination:* Annual revaccination with a single dose is recommended.

Precautions

Store at 2°C to 7°C. Prolonged exposure to higher temperatures and/or direct sunlight may adversely affect potency. Do not freeze. Use entire contents when first opened. Sterilized syringes and needles should be used to administer this vaccine. Do not sterilize with chemicals because traces of disinfectant may inactivate the vaccine. Burn containers and all unused contents. Contains gentamicin as preservative. Vaccination of pregnant bitches should be avoided. As with many vaccines, anaphylaxis may occur after use. Initial antidote of epinephrine is recommended and should be followed with appropriate supportive therapy. 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.

Product Information

Customer-friendly packaging includes peel-off labels to make record-keeping faster and more accurate, a color-coded organizing system and an easy-open safety band.

25 x 1-dose vials
50 x 1-dose for Vanguard CV

Product codes:
Vanguard DAMP - 4952
Vanguard DAP - 4945
Vanguard CV - 4928
**Pfizer Bordetella Vaccines**

**Bronchicine CAe, Vanguard-B**

### ANTIGENS

<table>
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<tr>
<th></th>
<th>Bronchicine CAe</th>
<th>Vanguard-B</th>
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<tbody>
<tr>
<td>Bordetella bronchiseptica parenteral</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Bordetella bronchiseptica intranasal</td>
<td></td>
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</tbody>
</table>

**Advantages**

- Studies* have suggested that the use of IN and SC routes may help provide a dog with the best protection against Bordetella by generating IgA antibodies in the mucous membranes and IgG antibodies that help protect against the circulating bacteria.\(^1\,\!\!^2\)
- Bronchicine\(^\circledast\) CAe is prepared from a strain of *Bordetella bronchiseptica* grown to a high yield then subjected to a proprietary process which extracts the desired antigenic material. The residual cell debris is removed, resulting in a product which retains the necessary immunologic components of the whole cell, while reducing extraneous proteins.
- Vanguard-B contains an avirulent live culture of *B. bronchiseptica* for intranasal (IN) vaccination of healthy dogs and puppies at least 3 weeks of age as an aid in preventing canine infectious tracheobronchitis (CITB) (“kennel cough”) caused by *B. bronchiseptica*.

#### Bronchicine CAe

- Bronchicine CAe has been confirmed to be an effective vaccine to help control CITB.
- Convenient subcutaneous (SC) parenteral administration.
- Ready to use, does not require reconstitution.
- Non-adjuvanted.
- No blow back.

#### Vanguard-B

- An effective intranasal option for vaccinating against Bordetella.

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*Vaccines used were Coughguard B (parenteral) and Nasaguard-B. Study results are specific to those vaccines.*

Pfizer Bordetella Vaccines (continued)

✦ Vanguard-B

Vanguard-B contains a highly antigenic modified-live *B. bronchiseptica* strain.

Six hundred fifty-five dogs were vaccinated according to label recommendations. One of the vaccinates was reported to have intermittent sneezing for 2 days following vaccination. No treatment was required. None of the remaining 654 dogs had any adverse reactions.

✦ Bronchicine CAe

Proprietary cellular antigen extraction process is responsible for the antigenic potency and the vaccine safety profile that have given us the confidence to say that Bronchicine CAe is smooth and easy.

✦ Demonstrated Where it Counts Most — In the Field

- Bronchicine is the number-one sold Bordetella product in the country.¹ Bronchicine is featured in over 16,000 veterinary clinics nationwide.
- Of dogs that are vaccinated for Bordetella in the USA — nearly half are vaccinated with Bronchicine.
- Pfizer tracks lack-of-efficacy claims with all of its vaccine products.
  — To date,¹ Bronchicine has a record of 0.13 calls per 10,000 doses sold which equates to 1 call per 77,000 doses sold for lack of efficacy. That’s equal to or better than our modified-live intranasal product — Vanguard-B — and compares favorably to other licensed companion animal vaccines.

¹December 8, 2008

1. DOANE Animal Vaccine Dispensed Reports, October 2008.
**Efficacy**

**Bronchicine Challenge Study 1**

**Animals:** The study involved 2 groups of 10 dogs each (Group A — treatment group; Group B — control group)* of both sexes ≥ 8 weeks of age at the time of vaccination. The animals were bred specifically for research purposes and were determined to be negative to Bordetella bronchiseptica by nasal swab cultures and MAT titers ≤ 1:64.

**Procedures:** Group A received subcutaneous vaccination at days zero and 21 of the study. On day 35, groups A and B were exposed to an aerosol challenge and observed for clinical signs for 21 days (day 56). Careful observations of Group A dogs following each vaccination indicated no unacceptable local or systemic reactions attributed to the vaccination.

**Results:**

**Nasal shedding:** All test dogs were negative for cultural isolation of Bordetella bronchiseptica (Bb) prior to challenge at day 35. Following aerosol challenge, Bb was isolated on days 38, 42, 45, 49 and 56 from nasal swabs collected from test dogs, indicative of a successful challenge.

**Serological:** Significant geometric mean titers were evident in the parenterally vaccinated group. At the day of the second vaccination, 90% of the parenterally vaccinated dogs had four-fold higher MAT titers than their respective screening sample titers. Titers reached maximum levels by 14 days post-second vaccination. Titers in the control group remained at baseline levels prior to challenge.

**Clinical Observations:** Vaccinates were free of clinical symptoms for 82% of the observation periods. Unvaccinated controls were symptomless 29.5% of the observation periods. Clinical symptoms of the control group began at day 37, 2 days postchallenge. Until day 56 — they had a higher daily mean clinical cough score on a scale of 0 to 5. By day 46 — 9/10 of the control dogs exhibited continual cough and 2/10 of the vaccinated dogs exhibited occasional clinical symptoms. Total cough scores for the vaccinated group = 38, total scores for controls = 191 — P<0.001.

**Temperature, Body Weight, and Adverse Reactions:** Controls had higher mean body temperatures on days 36, 37, 38, 39, 41 and 50. Percent change in body weight was significantly different on days 38, 42 and 45 in favor of the vaccinated dogs.1 No unacceptable local or systemic observations were attributable to the product for 72 hours post-vaccination.

**Conclusion:** Bronchicine CAe is safe and efficacious in dogs and will help provide protection in vaccinated dogs.

**Vanguard-B**

Effective local immune response and competitive inhibition of colonization of B. bronchiseptica.

**Dosage and Administration**

**Bronchicine CAe**

**General Directions:** Shake well.

**Primary Vaccination:** Aseptically administer 1 mL subcutaneously to healthy dogs at least 8 weeks of age. For initial vaccination, a second dose is required 2-4 weeks later. This product should be administered by subcutaneous injection only.

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* Four total treatment groups were involved in the study. Only 1 of the 4 groups received the final Bronchicine formulation and is the only vaccinated group included in summary, except in the Serological results. The Serological results include all parenterally vaccinated dogs.

Revaccination: Annual revaccination with a single 1 mL dose is recommended.

Vanguard-B
General Directions: Rehydrate vaccine with the accompanying sterile diluent. Shake well, and draw back into the syringe the required amount. Remove the needle from the syringe and attach applicator tip. Use immediately.
Primary Vaccination: Administer a single IN (0.5 mL into each nostril) dose using a syringe with applicator tip to healthy dogs and puppies at least 3 weeks of age or older.
Revaccination: Annual revaccination with a single dose is recommended.

Precautions
Bronchicine CAe
Store at 2°C to 7°C. Do not freeze. Use entire contents when first opened. Care should be taken to avoid microbial contamination of the product. In case of anaphylactoid reactions, epinephrine should be administered immediately. Transient local irritation at the site of injection, though rare, may occur subsequent to use of this product.

Vanguard-B
This product is designed for intranasal use only with the enclosed applicator tip. **DO NOT USE TO VACCINATE DOGS PARENTERALLY.**
Store in the dark at 2°C to 7°C (35°F to 45°F). Shake well after rehydration. Burn containers and all unused contents. In case of anaphylactoid reaction, administer epinephrine.

Product Information
Customer-friendly packaging includes peel-off labels to make record-keeping faster and more accurate, a color-coded organizing system and an easy-open safety band.

Product codes:
Bronchicine CAe 5 x 10-dose vials - 3543
Bronchicine CAe 50 x 1-dose vials - 3551
Vanguard-B 25 x 1-dose vials - 4275
\textbf{Advantages}

- Porphyromonas Denticanis-Gulae-Salivosa Bacterin is the first and only vaccine to aid in the prevention of canine periodontitis which affects 85\% of dogs over 3 years of age.\textsuperscript{1}
- This product is an important new adjunct to professional dental cleaning, periodontal therapy and owner-administered dental care routines.
- The Porphyromonas Vaccine is part of a complete canine wellness program that encourages annual visits.
- Safety of the vaccine was evaluated in laboratory studies and a field safety study.

\textbf{Safety and Efficacy}

Safety of the Porphyromonas Denticanis-Gulae-Salivosa Bacterin was established in trials involving animals from multiple geographic locations. Healthy dogs as young as 7 weeks of age were vaccinated according to label directions. No significant adverse events were observed in any animals during the study period. Efficacy studies and potency test validation are in progress. A reasonable expectation of efficacy has been demonstrated in dogs 8 months of age. Duration of immunity for this product has not been evaluated.

\textit{Notice: This product license is conditional. Efficacy and/or potency of this product have not been fully demonstrated, consultation with a veterinarian is recommended.}

\textbf{Dosage and Administration}

\textbf{General Directions:} Vaccination of healthy dogs is recommended. Shake well. Aspically administer 1 mL subcutaneously.

\textbf{Primary Vaccination:} Healthy dogs should receive 2 doses administered 3 weeks apart.

\textbf{Revaccination:} Duration of immunity for this product has not been evaluated. Consultation with a veterinarian is recommended.

\textbf{Precautions}

Store at 2°C to 7°C. Prolonged exposure to higher temperatures may adversely affect potency. Do not freeze. Use entire contents when first opened. Sterilized syringes and needles should be used to administer this vaccine. Transient lethargy and soreness may occur following vaccination. In case of anaphylaxis, administer epinephrine or equivalent. For use in dogs only.

\textsuperscript{1} Beard G, Emily P, Milligan & Williams C. American Animal Hospital Association, Veterinary Dentistry, Course I, 1989.
Product Information

Customer-friendly packaging includes peel-off labels to make record-keeping faster and more accurate, a color-coded organizing system and an easy-open safety band.

25 x 1-dose vials

Product code:
Porphyromonas Denticanis-Gulae-Salivosa Bacterin - 5250
Advantages

- Contains a highly immunogenic, fixed strain of rabies virus that originated from Louis Pasteur’s original 1882 isolate.
- Vaccine formulated with a chemically inactivated rabies virus prepared from cell culture.
- Exceptionally well tolerated after injection due to the purified adjuvant and a novel dual-buffering system that restricts pH to a narrow, safe range.
- Defensor vaccines produced for sale in California meet specific potency standards required by that state.

Safety and Efficacy

Studies conducted in mice to evaluate the relative effective dose of Defensor 3 vs a Centers for Disease Control and Prevention (CDC) referenced virus against 5 wild rabies viruses indicated that vaccine effectiveness extends beyond canine isolates to include naturally occurring wildlife strains with exceptional protection against raccoon and bat rabies viruses.\(^1\)

Because Defensor is produced on an established cell line, it has safety advantages over inactivated brain-origin rabies vaccines. Tissue-origin vaccines contain extraneous protein in addition to rabies antigen that can lead to autoimmune disease.

The established cell line used in Defensor has been extensively tested for freedom from contaminating agents. In addition, use of an established cell line yields a vaccine of consistent potency from serial to serial. Defensor has been demonstrated to be uniformly safe in experimental tests, and no significant adverse reactions were reported in extensive clinical trials of the vaccine.

A duration-of-immunity study, conducted in accordance with federal regulation and under US Department of Agriculture (USDA) direction, demonstrated that a 1 mL dose of Defensor 3 met federal guidelines for protection of dogs and cats against virulent challenge administered 3 years after vaccination.

In a field safety study, with 2,647 doses administered, 96.2% of the doses were administered with no vocalization and 99.9% of doses were administered with no lameness, stiffness, hypersensitivity reactions, or injection site lumps for 21 days after vaccination.\(^2\)

Dosage and Administration

**General Directions:** Shake well. Aseptically administer 1 mL subcutaneously for cats. Dogs may be vaccinated intramuscularly or subcutaneously.

**Primary Vaccination:** Administer a single 1 mL dose at 3 months of age or older to healthy dogs and cats.
A repeat dose should be given 1 year later.

**Revaccination:**
- **Defensor 1:** Annual revaccination with a single dose is recommended.
- **Defensor 3:** Subsequent revaccination every 3 years with a single dose is recommended.

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