

Nobivac A VACCINE FOR EVERY LIFESTYLE

Every dog is different — big, small, active or social.
Nobivac® provides the flexibility to tailor vaccine protocols to each dog's unique lifestyle needs.



CORE Vaccine Features

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Nobivac® Canine Core

- Nobivac® 3-DAPv is the ONLY USDA-approved label for 3-year protection against core infectious diseases, distemper, adenovirus, and parvovirus.¹
- Protects against all known strains of canine parvovirus, including CPV-2c.²
- Stimulates an IgG response for canine parainfluenza.

Nobivac EDGE™ Advantage

- FULL SIZE PROTECTION IN A HALF SIZE VACCINE**
- Cutting-EDGE proven protection for dogs of all sizes in half the injection volume.

Nobivac EDGE™ DAPPv

- THE MOST CONVENIENT COMBO PROTECTION**
- The ONLY 0.5 mL vaccine that provides protection against distemper, adenovirus type-1, parvovirus and parainfluenza in one formula.
 - Parainfluenza is highly contagious. While it is not considered a core infectious disease, parainfluenza is one of the most common pathogens of canine infectious respiratory disease.³



ACTIVE Vaccine Features

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Nobivac® Lepto₄

- FOUR-WAY LEPTOSPIRA PROTECTION**
- Shown to be effective against **disease, mortality and urinary shedding** of *L. canicola*, *L. icterohaemorrhagiae*, *L. pomona*, and *L. grippityphosa*.^{4,5}
 - Nobivac EDGE™ DAPPv+L₄ 99% reaction-free in Clinical Impressions Study.⁴

VACCIPURE™

- Proprietary filtration technology: A porous filtration membrane selectively removes extraneous proteins, salts, and solvents.
- Fewer total proteins yields a more purified final product, which can reduce unwanted immune system responses.⁴

Nobivac® Lyme

- COMPREHENSIVE PROTECTION AGAINST *Borrelia burgdorferi***
- Proven to induce borreliacidal antibodies for both OspA and OspC—killing *Borrelia burgdorferi*.^{6,7}
 - Nobivac® Lyme is the first vaccine shown to be effective against subclinical arthritis caused by *B. burgdorferi*.⁶
 - 99.3% reaction-free.⁴



SOCIAL Vaccine Features

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Nobivac® Intra-Trac

- PROVEN RAPID PROTECTION**
- Provides rapid protection beginning as early as 48 hours post-vaccination against *B. bronchiseptica*.⁹
 - 1-year published challenge data for *Bordetella*.⁸
 - No booster required for primary immunization.

INTRANASAL AND ORAL DELIVERY OPTIONS

- Stimulates an IgA response from intranasal administration.⁹
- Maternally-derived antibodies do not interfere with immune response following mucosal administration.
- Added convenience with 0.4-0.5 mL, one nostril administration for intranasal vaccines.

Nobivac® Flu

- EFFECTIVE FLU PROTECTION**
- 92% of the states have been affected by one or more strains of **canine influenza virus**.^{11,12}
 - Shown to be effective against severe clinical signs caused by **canine influenza virus** and effective at reducing lung consolidation.¹⁰
 - 99.1% reaction-free.⁴
 - Dogs at risk for *Bordetella* are also at risk for CIV.

AAHA CANINE VACCINATION GUIDELINES

Vaccines for **distemper, canine hepatitis, canine parvovirus, and rabies** are considered core vaccines—mandatory for all dogs.³

CORE Vaccines

	Distemper (CDV)	Canine Hepatitis (CAV-1)	Canine Parvovirus (Pv)	Rabies	Parainfluenza
Nobivac EDGE™ DAPPv	●	●	●	●	EDGE™
Nobivac® Canine 1-DAPPv	●	●	●	●	
Nobivac® Canine 1-DAPPv+Cv	●	●	●	●	
Nobivac® Canine 3-DAPv	●	●	●		3-Year
Nobivac® Puppy DPv	●	●			
Nobivac® Canine 1-Pv		●			
Nobivac® 1-Rabies				●	
Nobivac® 3-Rabies / 3-Rabies CA				●	3-Year

AAHA CANINE VACCINATION GUIDELINES

Vaccination against the common four strains of **Leptospira** and **Borrelia burgdorferi** may be given according to the dog's exposure risk.³

ACTIVE Vaccines

	Four-way Leptospira	Borrelia burgdorferi (Lyme)	Parainfluenza virus	Core Protection
Nobivac EDGE™ DAPPv+L ₄	●	●	●	VacciPure™ EDGE™ Core
Nobivac® Canine 1-DAPPv+L ₄	●	●	●	VacciPure™ Core
Nobivac EDGE™ Lepto ₄	●			VacciPure™ EDGE™
Nobivac® Lepto ₄	●			VacciPure™
Nobivac® Lyme		●		Dual Action
Nobivac® 1-DAPPv+L ₂			●	Core
Nobivac® 1-DAPPv+L ₂ +Cv*			●	Core

*Also available Nobivac® Canine 1-Cv

AAHA CANINE VACCINATION GUIDELINES

Common causes of CIRDC include ***B. bronchiseptica*, parainfluenza virus, adenovirus type 2, canine influenza viruses H3N8 and H3N2**, and other pathogens. Dog vaccinated against *B. bronchiseptica* and the other pathogens should also be vaccinated against canine influenza.

SOCIAL Vaccines

	Bordetella bronchiseptica	Parainfluenza virus	Adenovirus-2	H3N8	H3N2
Nobivac® Intra-Trac ₃	●	●	●		
Nobivac® Intra-Trac ₃ ADT	●	●	●		
Nobivac® Intra-Trac® KC	●	●			
Nobivac® Intra-Trac® Oral Bb	●				
Nobivac® Canine Flu Bivalent				●	●
Nobivac® Canine Flu H3N8				●	
Nobivac® Canine Flu H3N2					●

References: 1. Nobivac® Canine 3-DAPv [Product Label] Merck Animal Health, Madison, NJ. 2. Larson LJ, Schultz RD. Do two current canine parvovirus type 2 and 2b vaccines provide protection against the new type 2c variant? Vet Ther. 2008;9(2):94-101. 3. Cohn LA. Canine infectious respiratory disease complex: editorial review [white paper]. September 2013. http://www2.smartbrief.com/hosted/spt4485/Cohn-CIRD_Editorial-Review.pdf Accessed December 11, 2019. 4. Data on file, Merck Animal Health. 5. LaFleur RL, Dant JC, Wasmoe TL. Prevention of disease and mortality in vaccinated dogs following experimental challenge with virulent leptospira. J Vet Int Med. May/June 2011, Vol 25, Issue 3; 747-6. LaFleur RL, Dant JC, Wasmoe TL, et al. Bacterin that induces anti-OspA and anti-OspC borreliacidal antibodies provides a high level of protection against canine Lyme disease. Clin Vaccine Immunol. 2009;16(2):253-259. 7. Schwan TG, Piesman J. Vector interactions and molecular adaptations of Lyme disease and relapsing fever spirochetes associated with transmission by ticks. Emerg Infect Dis. 2002;8(2):115-121. 8. Lehr C, Jayappa H, Erskine J, Brown A, Sweeney D, Wasmoe T. Demonstration of 1-year of immunity for attenuated Bordetella bronchiseptica vaccines in dogs. 9. Bey RF, Shade EJ, Goodnow RA, Johnson RC. Intranasal vaccination of dogs with live avirulent Bordetella bronchiseptica: correlation of serum agglutination titer and the formation of secretory IgA with protection against experimentally induced infectious tracheobronchitis. Am J Vet Res. 1981;42(7):1130-1132. 10. LaFleur RL, Davis TL, Tuma PA, Jayappa H, Tarpey I. Demonstration of protection against canine influenza virus H3N2 infection following vaccination with an inactivated CIV H3N2/H3N8 bivalent vaccine. CRWAD; December 6-8, 2016. Abstract. 11. Crawford C, Dubovi E, Kapil S; Syndromic surveillance data 12. IDEXX Laboratories and Cornell AHDC CIV Surveillance Network.

VACCINE JOURNEY

THE JOURNEY BEGINS

Congratulations, you are a new puppy parent! You're excited to discover all of the outdoor spaces to explore with Charlie.

Today, Charlie has had a great first visit to the dog park.

However...

A week later Charlie starts to have diarrhea and you notice signs of blood in his stool. He's feverish and lethargic so you take him to the vet.

PUPPY'S FIRST TRIP

Possible culprit:
Canine Parvovirus.

Unvaccinated or partially vaccinated dogs who engage with other dogs are at risk of becoming infected with parvovirus. Puppies are at more risk.

Ask your vet why.

Vaccination is crucial for building a puppy's immunity. For puppies like Charlie, their immune system is still immature. This is why it is important to protect your dog from highly contagious diseases like a parvovirus infection that can be harmful and even fatal.

CORE VACCINES FIRST

Vaccines for distemper, canine hepatitis, canine parvovirus and rabies are considered core vaccines by the American Animal Hospital Association. Core vaccines are mandatory for all dogs. Your vet advises you to use caution socializing Charlie with other puppies or unvaccinated dogs at parks.

ACTIVE DOG

Now that Charlie is older, you are able to venture out of the neighborhood. You discovered a "hidden gem" trail by the pond and you want to take Charlie along.

However...

Weeks after a hike and swim in the pond, you've noticed Charlie is more lethargic, and doesn't seem to be eating as much lately.

WILD ENCOUNTER

Possible Culprit:
Leptospirosis bacteria, or "lepto"

You read on the news that there is an increase in ticks in the area, and tick-related diseases. You've been pretty good about doing daily tick checks, especially after your walks through wooded areas and tall grass.

However...

Your vet found an engorged tick on Charlie.

Possible Outcome:
Lyme disease

"Lepto" can be transmitted through contact with water, soil or food contaminated by urine from infected animals. As a zoonotic disease, "Lepto" can be transmitted from infected animals to humans.

Ticks carry the bacterial cause of Lyme disease, *Borrelia burgdorferi*. According to the CDC, there's an increase in ticks and tick-related diseases in the United States.

We have noticed more leptospirosis cases around here. Prevention is key since as many as 8.2% of dogs are asymptomatic¹, but are carriers of the disease!

It is also important to note that Lyme disease is emerging in our area. Based on Charlie's lifestyle, I recommend Lyme vaccination and a year round tick preventative to help reduce the risk of Lyme disease infection.

LEPTO & LYME VACCINES FIRST

Given the risks associated with rising lepto cases and the emergence of ticks carrying Lyme disease, you decide that vaccination offers the best protection to continue Charlie's favorite outdoor activities.

SOCIAL DOG

It's finally time for vacation. This time, Charlie isn't coming with you — he'll be boarding at the Furry Friends Kennel for a week.

You drop Charlie off at the kennel, and he is so excited to play with his new friends!

However...

Charlie did not visit the vet for vaccines before boarding. A few days after vacation, you notice Charlie has developed a dry, hacking cough. Charlie has lost his appetite and you know something is wrong.

SOCIAL BUTTERFLY

Possible Culprit:
Bordetella, parainfluenza, adenovirus, Dog Flu

Canine respiratory diseases are commonly seen where dogs are in close contact with each other.

Social dogs that are at risk for *Bordetella* are also at risk for Dog Flu.

You picked a great kennel! But first, Charlie needs to be vaccinated for some common and very contagious respiratory pathogens that he may be exposed to at the kennel—*Bordetella*, parainfluenza, and adenovirus.

Also, two strains of canine influenza have been going around; H3N2 and H3N8. Over 90% of the U.S. states have been affected by one or both strains!^{2,3} I highly recommend vaccinating against all of these pathogens to keep Charlie healthy.

CANINE RESPIRATORY DISEASES VACCINES

You chose to protect Charlie against common respiratory diseases including Dog Flu.

Talk to your vet about which vaccines will provide the best protection for your dog's lifestyle!

References: 1. Harkin KR, Roshto YM, Sullivan JT, et al. Comparison of polymerase chain reaction assay, bacteriologic culture, and serologic testing in assessment of prevalence of urinary shedding of leptospires in dogs. J Am Vet Med Assoc 2003;222:1230-1233. 2. Crawford C, Dubovi E, Kapill S. Syndromic surveillance data 3. IDEXX Laboratories and Cornell AHDC CIV Surveillance Network.

