



Nobivac[®]:Lyme

- Unique borreliacidal technology

- The only protection of its kind



The **ONLY** vaccine proven to trigger borreliacidal antibodies that **kill** viable *B. burgdorferi* expressing OspA and OspC variants—delivering more complete coverage and confidence with every dose.¹⁻³

Nobivac[®] 
Protection unites us.

 **MERCK**
Animal Health

More complete protection. More confidence.

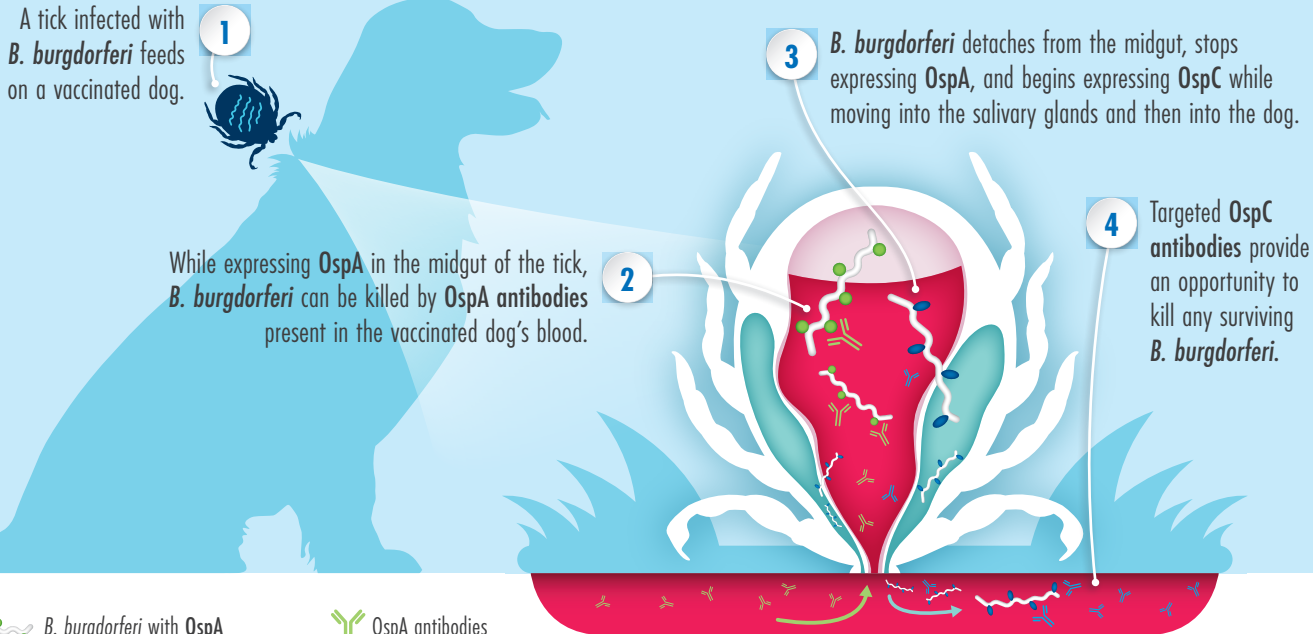


Nobivac® Lyme—targets and kills like no other Lyme vaccine.

- Triggers borreliacidal antibodies against OspA and OspC variants, **killing *Borrelia burgdorferi* in the tick and in the dog**^{1,2}
- The first vaccine shown to be effective against subclinical arthritis and other signs of Lyme disease^{1,3}
- After vaccination with Nobivac® Lyme, there was no evidence of *B. burgdorferi* infection¹
- Duration of immunity at least 1 year³

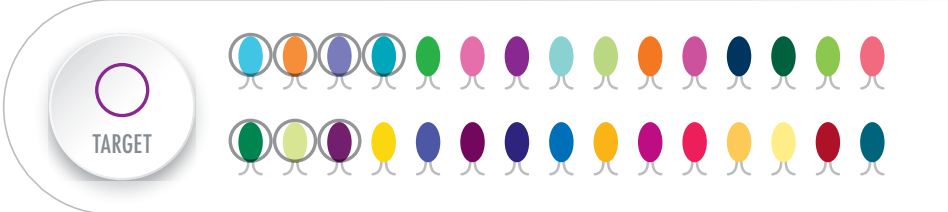
Abbreviation: Osp, outer surface protein.

Nobivac® Lyme provides a full level of protection against OspA- and OspC-expressing variants of *B. burgdorferi*.

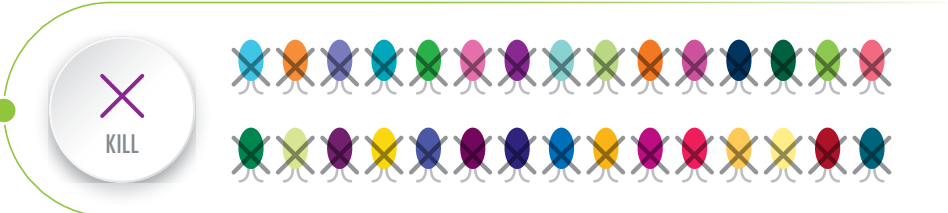


Unlike other vaccines, Nobivac® Lyme targets a conserved region of the OspC antigen present in **VARIANTS OF OspC**¹

Vanguard® crLyme targets a limited number of OspC variants⁴



Nobivac® Lyme targets and kills OspC variants that express the highly conserved epitope^{1,2}



More coverage against more variants means **MORE PROTECTION.**

The borreliacidal antibodies in Nobivac® Lyme were shown to be effective against *B. burgdorferi*.*

After Nobivac® Lyme vaccination, no *B. burgdorferi* were found¹

No signs of Lyme disease–associated joint abnormalities¹

0% IN THE TICK/SKIN/JOINT

0% SUBCLINICAL ARTHRITIS

*The tick challenge study was a placebo-controlled trial involving thirty, 8-week-old puppies. Dogs were challenged 3 weeks after second vaccination.¹

Stimulate borreliacidal antibodies.

Optimize your Osp protection.

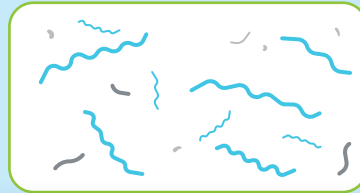
Nobivac® Lyme

Nobivac® Lyme reliably induces borreliacidal antibodies that kill bacteria expressing OspA and OspC variants.†

Spirochetes killed by Nobivac® Lyme



Live, motile spirochetes left by the competition



†A blinded study involving 3 randomized groups of five, 9-week-old, laboratory-reared Beagles vaccinated according to the label recommendations. Blood samples were collected before initial vaccination and 7 days after the booster.²

Only Nobivac® Lyme provides a multifaceted approach to protection.

	Nobivac® Lyme ^{1-3,5}	RECOMBITEK® Lyme ⁶	Duramune® Lyme ^{2,7}	VANGUARD® crLyme ^{2,8}
Induces borreliacidal antibodies that kill viable OspA-expressing spirochetes	✓	✓	✓	✓
Induces borreliacidal antibodies that kill viable OspC-expressing spirochetes	✓			
Shown to be effective against clinical disease caused by <i>B. burgdorferi</i>	✓	✓	✓	✓
Labeled effective against subclinical arthritis caused by <i>B. burgdorferi</i>	✓			
Initial vaccination, weeks	8	9	9	8
Second dose, weeks	2-4	2-3	2-3	3

Put confidence into practice with Nobivac® Lyme.

To learn more, contact your Merck Animal Health sales representative or your distributor representative.

Customer Service: 1-800-521-5767
(Monday–Friday, 9:00AM–6:00PM EST)

Technical Services: 1-800-224-5318
(Monday–Friday, 9:00AM–7:00PM EST)

Nobivac®

Protection unites us.

References: 1. LaFleur RL, Dant JC, Wasmoen 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;16:253–259. 2. Dant JC, LaFleur RL, Callister SM, Stahl M, Sutton D, Tarpey I. Ability of antibodies induced by canine Lyme disease vaccines to kill viable spirochetes. Poster presented at: The ISCAID Symposium; October 16–19, 2016; Bristol, UK. 3. Data on file. Merck Animal Health. 4. Why variability of OspC matters. Zoetis website. Available at: <https://www.zoetis.com/products/dogs/vanguard-crlyme/>. Accessed February 3, 2021. 5. Nobivac® Lyme [product label]. Madison, NJ: Intervet, Inc; 2009. 6. RECOMBITEK® Lyme [product label]. Duluth, GA: Boehringer Ingelheim Animal Health; 2017. 7. Duramune® Lyme [product label]. Greenfield, IN: Elanco; 2017. 8. VANGUARD® crLyme [product label]. Florham Park, NJ: Zoetis, Inc.; 2017.

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