

EFFICACY STUDY

Demonstrated efficacy in a laboratory challenge study using wild caught ticks¹

Objective: Demonstrate the ability of VANGUARD[®] crLyme to aid in the prevention of clinical disease and subclinical arthritis associated with *Borrelia burgdorferi*.

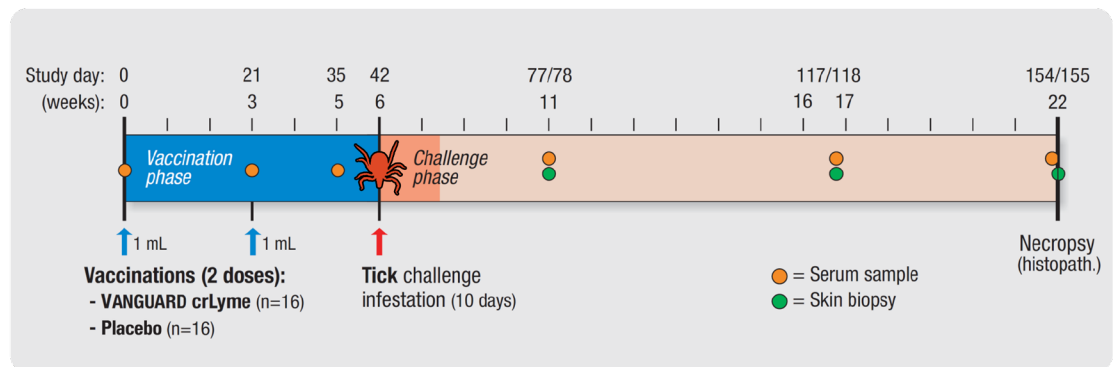
Methods: 36 healthy Beagles (8–9 weeks of age) seronegative for Lyme disease were randomized in a 155-day tick challenge study. Dogs were randomly divided into groups. Vaccinates and placebo vaccinated controls received two injections, three weeks apart, and then challenged with wild caught ticks for a total of ten days. The third group consisted of non-vaccinated, non-challenged controls that received identical care throughout the study.

Group 1: 16 dogs received placebo

Group 2: 16 dogs received VANGUARD crLyme

Group 3: 4 dogs in sentinel group were not vaccinated or challenged with ticks

Study Timeline



C₆ Antibody Test Results

IDEXX[®] C₆ SNAP[®] Test Results at 30, 60 and 90 Days Post-Challenge

A significant difference ($p < 0.0001$) was noted between vaccinates and controls with respect to the prevention of *B. burgdorferi* infection:

- After challenge, all dogs in the placebo vaccinated (control) group tested positive
- All dogs in the sentinel group were negative at all time points
- One dog in the product treatment group tested positive once for *B. burgdorferi* on day 30 post-tick challenge via a C₆ SNAP test and tested negative at all other times

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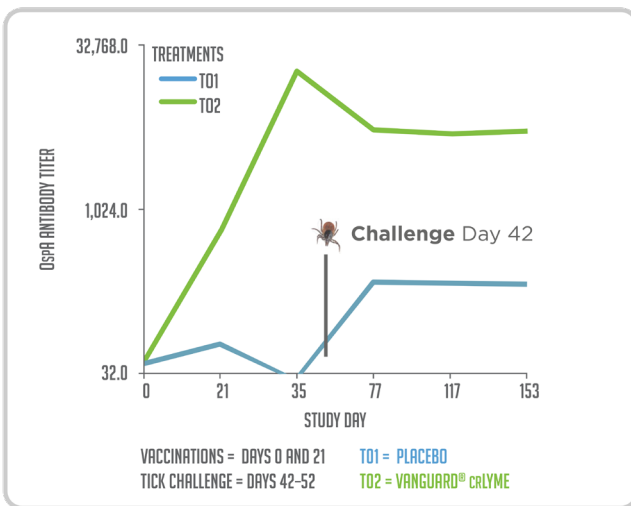
OspA & OspC Antibody Response¹

VANGUARD[®] crLyme demonstrated a robust antibody response post-vaccination

Vaccinations at Days 0 and 21; Wild Caught Tick Challenge from Days 42–52

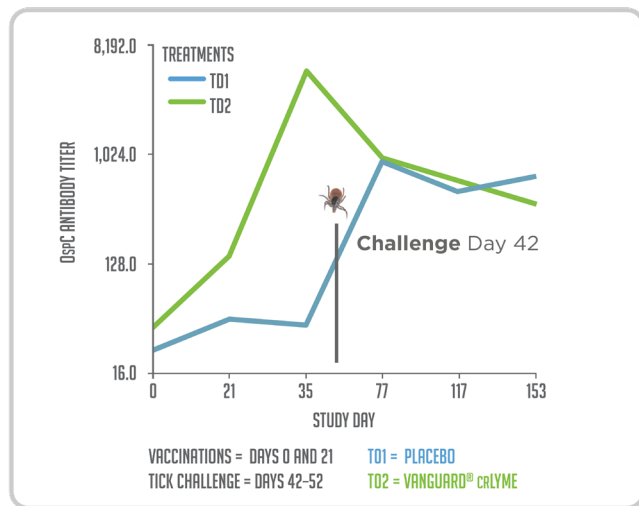
OspA Antibody Titers

After VANGUARD crLyme vaccination, robust OspA antibody titers were observed and maintained in dogs.



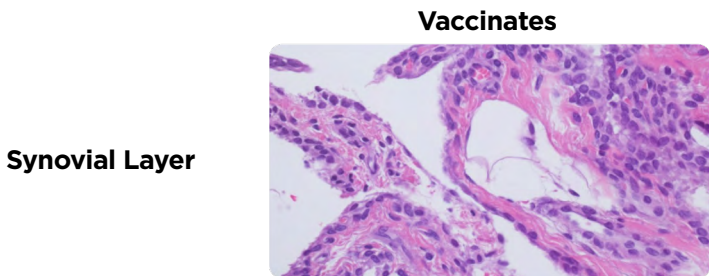
OspC Antibody Titers

Post-challenge, there was no increase in OspC antibodies with VANGUARD crLyme vaccinates, demonstrating protection against *B. burgdorferi* infection.

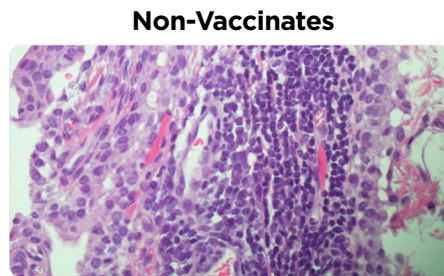


Histopathology Results¹

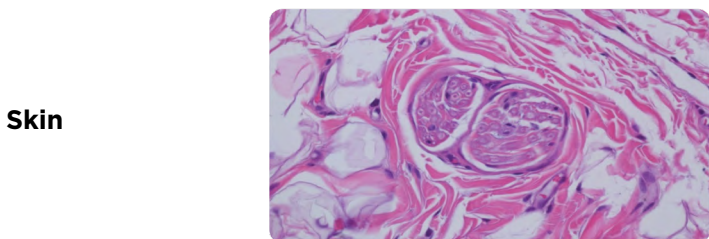
VANGUARD crLyme helped prevent inflammation in the skin and joints.



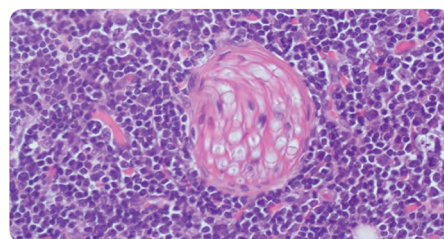
No inflammatory infiltrates present



Nodular mononuclear (lymphoplasmacytic) infiltrate present



Normal neural fiber



Nodular lymphoplasmacytic infiltrate present around neural fiber

¹Data on file, Study Report No. B865R-US-12-018, Zoetis Inc.