Evaluation of safety and PCV2 immune response induced by a new intradermal vaccine compared to intramuscular vaccination in a commercial farm

M. Jiménez[1], M. Coma[2], C. Laza[3], R. Menjón[1], M. Marcos[1], Hanny Swam[4]
[1]MSD Animal Health, Spain, [2]ALBET SA, [3]CALDESVET, [4]CDS Boxmeer
marta.jimenez@msd.com

Introduction

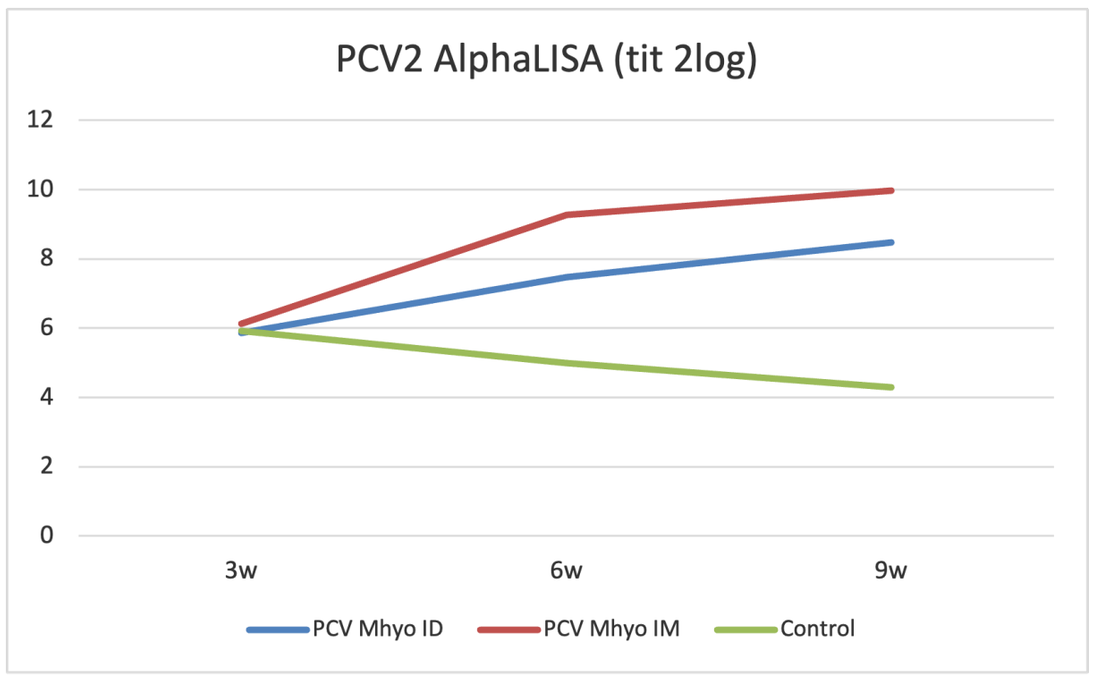
PCV2 vaccines can be applied via the intramuscular or via the intradermal route. The aim of this study was to evaluate the safety and the PCV2 immune response of Porcilis® PCV M Hyo ID, and to compare it with the one elicited by a vaccine applied intramuscularly.

Materials & Methods

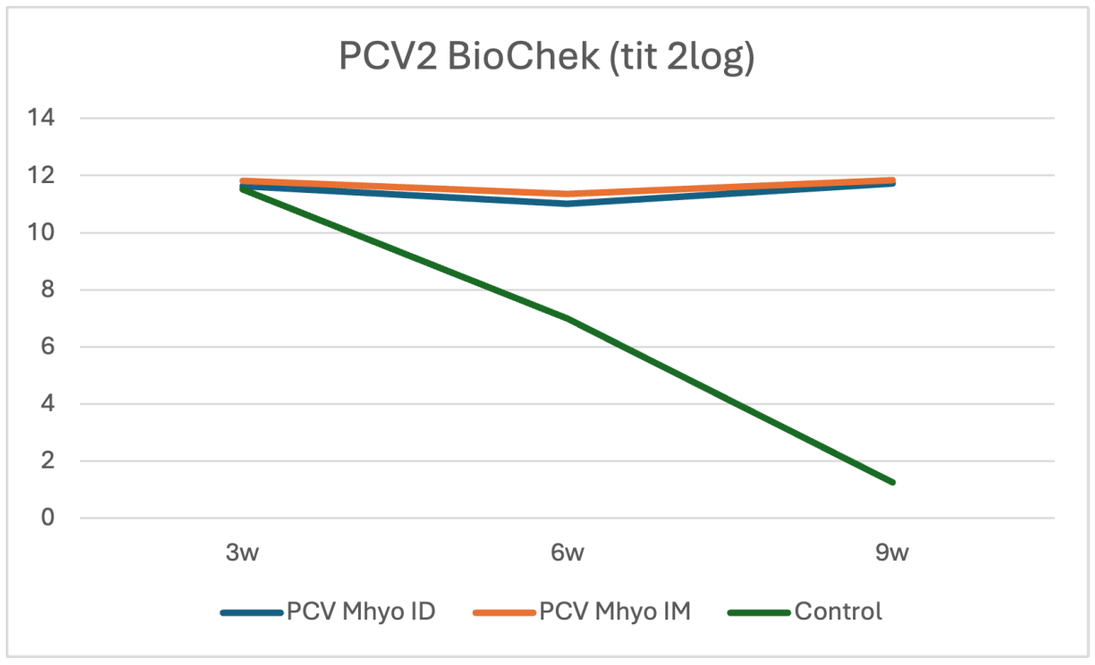
The study was conducted in a commercial Spanish farm, PCV2 vaccinated, without clinical disease. Eighty piglets (21±2 days) were individually identified and randomly assigned to three groups: IDAL® (n=30) vaccinated with Porcilis® PCV M Hyo ID; IM (n=25) vaccinated with Porcilis® PCV M Hyo intramuscularly; CONTROL (n=25); not vaccinated. Rectal temperature was recorded at vaccination (21 days) and 24h, 7d, and 14d post-vaccination. Blood samples were taken at vaccination (3w) and at 6 and 9 weeks of age. PCV2 antibodies were measured with an in-house AlphaLISA (MSD Animal Health) and a commercial BioChek ELISA. PCV2 PCR was performed at 9w. Statistical comparisons used Pearson chi-square and two-way mixed ANOVA.

Results

No differences in rectal temperatures were observed between groups at any time. At vaccination, all groups showed moderate levels of MDA (IDAL® 5.87 log_2; IM 6.13 log_2; CONTROL 5.92 log_2; $p>0.05$). All animals were PCV2-PCR negative at 9w of age. By the AlphaLISA test at 9w, 96.8% of IDAL® and 100% of IM piglets had antibody titers above the expected protection level, versus 4.34% in CONTROL ($p<0.001$) (Graph 1); BioChek results were similar (Graph 2). Quantitatively, at 9w, both vaccinated groups had significantly higher antibody titers than CONTROL in both ELISAs ($p<0.001$). Both ELISA tests showed a high significant association between results ($p<0.001$) with high level of concordance (91,1% at 9w). Correlation between Ab levels was positive, high and highly significant.



Graph 1: PCV2 seroconversion (AlphaLISA test)



Graph 2: PCV2 seroconversion (BioChek PCV2 test)

Discussion & Conclusion

Both intradermal and intramuscular vaccination showed a very strong PCV2 humoral response in all animals, clearly above protective level despite moderate MDA levels at vaccination.

Copyright © 2026 Merck & Co., Inc., Rahway, NJ, USA and its affiliates. All rights reserved. Poster Code: IMM-PP-18

MSD Animal Health