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TITLE

NEUTRALIZING ANTIBODIES AGAINST PRRS VIRUS IN BREEDING PIGS VACCINATED WITH THE COMBINED ADMINISTRATION OF UNISTRAIN® PRRS AND ERYSENG® PARVO

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CONTENT

The combined administration of UNISTRAIN® PRRS (UP), PRRS MLV vaccine, and ERYSENG® PARVO (EP), inactivated Porcine Parvovirus and Swine Erysipelas, is licensed. PRRSV generates an immune response characterized by weak and delayed production of neutralising antibodies (NA) and cell-mediated immunity (CMI). However, both NAs and CMI have been related to protection against PRRSV. CMI response after UP vaccination it induces a significant specific CMI response against heterologous PRRSV strains after a common vaccination scheme with primary vaccination and revaccination 4 months later. The objective of the present study was to assess homologous viral NA against the PRRS MLV vaccine strain.

Ten PRRS-naïve healthy gilts, 6-month-old, were randomly allocated to three groups: group A (n=6, UP + EP, 2 ml/dose IM) and group C (n=4, control group, 2 ml PBS/dose IM). Animals were vaccinated at days 0, 21 and 147 of the study. Blood samples were collected at days 0, 21, 28, 42, 147 and 154. NAs against the PRRS MLV vaccine were measured.
Homologous NAs were detected as early as day 21 in all vaccinated animals (individual log2 titres from 2 to 3) and remained positive throughout the study. From day 21 onwards, NA titres increased and peaked at day 42 (mean titre = 4.6 ± 1.2). Remarkably, the titres remained unchanged during the four-month interval (mean titres = 3.8 ± 0.4 at day 28 vs 3.9 ± 1.3 at day 147). Comparison of the titres showed a significant boost from day 21 to 28 post-vaccination ($p < 0.05$).
The combined administration of UP and EP based on primary vaccination (two shot 3 weeks apart) and revaccination 4 months later showed to boost CMI after each administration against genetically and immunologically diverse PRRSV strains (previously published) and to induce a homologous NA response by day 21, which remained constant thereafter.