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VIABILITY OF THE PRRS VIRUS CONTAINED IN A LIVE ATTENUATED VACCINE AFTER ITS COMBINATION WITH AN INACTIVATED VACCINE AGAINST GLÄSSER DISEASE

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INTRODUCTION

Immunization plans in sows are already crowded by multiple injections of vaccines. Practices like combination of vaccines are sometimes adopted in field to overcome this problem; when not licensed, this might jeopardize the safety and efficacy of the vaccines. Inactivated vaccines may contain preservatives and other compounds that might compromise the viability of live attenuated vaccines after their combination; as a consequence, the efficacy of this might altered.

This study aims to evaluate the in vitro viability of a PRRSv live attenuated vaccine after its combination with an inactivated vaccine against Glässer disease.

MATERIALS AND METHODS

Vaccines were combined by re-suspending the lyophilized fraction of UNISTRAIN® PRRS with HIPRASUIS® GLÄSSER (whereas the dissolvent of UNISTRAIN® PRRS was discarded). Moreover, the lyophilized fraction of a UNISTRAIN® PRRS of the same batch was re-suspended with the dissolvent provided by the manufacturer and this solution was used as control. The prepared solutions were then left at room temperature and the viability of the PRRS virus contained in them was assessed each hour up to 4 hours after preparation. The viability of PRRSv was tested *in vitro* by immunoperoxidase monolayer assay on a culture of MARC-145 cells. Results were expressed as log_{10} of Cell Culture Infectious Dose 50 ($CCID_{50}$).

RESULTS

The batch of the PRRS vaccine used for the study maintained, after its preparation and up to 4 hours of in-use stability, the titres of the live virus within the specifications of the product (103.5-5.5 CCID/dose), either combined with its own solvent or the Glässer vaccine. When compared to control at T0, no major decrease of PRRSv titre was observed after the combination of the vaccines. Indeed, the combination of vaccines showed similar average virus titres at each time point evaluated compared to control.

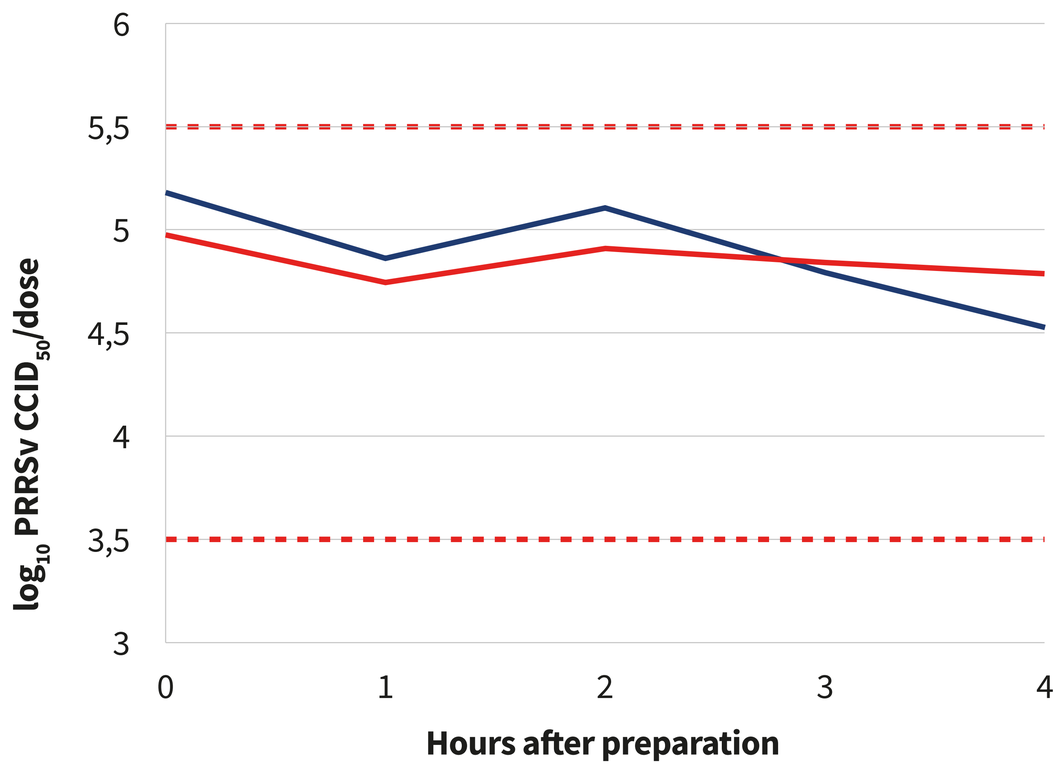

Figure 1. *PRRSv viability expressed as log10. CCID50 after (a) the preparation of the PRRS vaccine with its own solvent (blue line, control) or (b) the combination of the PRRS vaccine with the Glässer vaccine (orange line, test combination). Red lines represent the minimum and maximum titers of live virus specified by the PRRS vaccine manufacturer.*

DISCUSSION

Results suggested that the non-licensed combination of the studied PRRS and Glässer vaccines does not compromise in vitro the viability of the live attenuated virus contained in the former. In particular, the viability of PRRSv was maintained during the entire in-use stability of the product after combination of vaccines. Further studies in animals with several vaccine batches are needed to evaluate the safety and efficacy of the combination of these products.

CONCLUSIONS

The PRRS virus contained in UNISTRAIN® PRRS remains viable in vitro after combination with HIPRASUIS® GLÄSSER up to 4 hours of in-use stability.

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REFERENCES

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