

# A new PRRSV ELISA, highly correlated with IPMA

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## Introduction

There is a general believe that PRRSV ELISA's are showing a long response after infection or vaccination while IPA/IFA are showing a shorter response and therefore more preferable to show dynamics in herds. This paper describes the new BioChek PRRSV ELISA which is strong correlated with IPMA/IFA.

## Materials and methods

### Sera

A panel of 91well defined sera with known IFA and competitor ELISA results provided by the MSD Service Lab in Boxmeer, NL were used.

### ELISA

The BioChek Porcine Respiratory and Reproductive Syndrome Virus Antibody Test Kit was used and performed according to the manufactures kit insert.

### Software

To calculate correlation and  $R^2$  Microsoft Excel 2010 was used. For correlation log<sub>2</sub> titers of the ELISA and IPMA were used.

## Results

Results are summarized in Table 1 and Figure1.

The correlation based on log<sub>2</sub> titers for both IFA and BioChek PRRSV ELISA was calculated as 0.982,  $R^2$  was 0.58.

Table 1 and Figure 1 clearly show the high correlation of the BioChek ELISA with IFA and the low correlation of Brand X with IFA.

## Discussion

ImmunoPeroxidaseMonolayerAssay (IPMA) or ImmunoFluorescenceAssay (IFA) are considered to be the Gold Standard for PRRSV serology and are still used to show herd dynamics. But IPMA or IFA are laborious and therefore not always available in laboratories. A PRRSV ELISA which can replace the IPMA/IFA will be in favor to show herd dynamics.

Lopez et.al. described two main different classes of antibodies, the total antibodies and the neutralizing antibodies. It is important to distinguish between the two classes, the neutralizing antibodies are considered to provide protective immunity. The best way to detect neutralizing antibodies is by IPMA/IFA or SN.

Neutralizing antibodies are shorter lasting than total antibodies. Under field conditions this is important to recognize, as neutralizing antibody response correlate with protection and as presence of neutralizing antibodies correlates with a recent infection.

Since the BioChek PRRSV ELISA is showing a strong correlation with IFA and a better discrimination of between total antibodies and neutralizing antibodies the BioChek PRRSV ELISA could be more in favor to overwatch herd dynamcis and protective immunity in herds.

## Conclusion

The BioChek PRRSV ELISA correlates well with IPMA/IFA and therefore correlates well with neutralizing antibodies. The BioChek ELISA can be used to detect neutralizing antibodies.

## Acknowledgements

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## References

O.J. Lopez et.al, (2004), Vet. Immunology and immunopathology, 102, 155-163