



ISWAVLD 2023

International Symposium of the World
Association of Veterinary Laboratory
Diagnosticians

29 JUNE-1 JULY
2023
Congress Centre
Lyon

*Towards
the veterinary
diagnostics
of the
future*

Main topic : Animal Health

VetMAX™ PRRSV EU & NA 3.0 Kit – A reliable Real-Time RT-PCR full solution for the detection of PRRS virus from common to innovative sample types.

CHARROT J.¹, LELIEVRE M.¹, ISMAIL M.², ZEIN-PHILLIPSON Y.³, MOINE S.¹

¹ Thermo Fisher, Lissieu, France; ² Thermo Fisher, Texas, Austin, United States; ³ Thermo Fisher, California, United States

Porcine reproductive and respiratory syndrome (PRRS) is one of the most important diseases that has brought significant economic losses to the swine industry worldwide.

This disease is caused by a single stranded positive-sense RNA enveloped virus which leads to greater heterogeneity of the nucleotide sequence between individual strains. A key part of effective prevention, control, and elimination strategies for PRRS is the development and implementation of highly sensitive and specific diagnostic method.

For more than 20 years, Thermo Fisher is engaged in PRRS virus diagnosis: the high mutation rate of the virus is addressed through regular monitoring of circulating strains over Europe and United States of America (USA) using sequencing technologies.

It led to several design updates of our Real-Time RT-PCR PRRSV detection kit to efficiently cover circulating PRRS viruses including relatively novel strains variety like the 1-1-4 lineage 1C (USA) and Highly Pathogenic strain (HP-PRRSV, China).

VetMAX™ PRRSV EU & NA 3.0 Kit has been updated in 2022 in order to keep high diagnostic sensitivity by identifying conserved regions for both EU & NA primers and probes assays.

Considering the evolution of herd management, we have also updated our workflows to better meet our user's needs.

Current methods of detecting PRRS virus (PRRSV) in boar semen are time-consuming, laborious, or not sensitive enough due to sample type inherent inhibition effect. Our objective was to develop a reliable and sensitive nucleic acid purification (based on our MagMAX™ CORE Nucleic Acid Purification Kit chemistry) to directly detect PRRSV in boar semen. Positive field semen samples were collected in Europe in 2022 and the optimization of the purification protocol led to a gain of sensitivity of 1 log on real infected field samples.

Additionally, we have validated a new application to our new generation of VetMAX™ PRRSV EU & NA 3.0 Kit, detecting PRRSV from the processing fluids (PF). The use of PF was first described in 2018 in the USA and was demonstrated to provide a higher herd-level sensitivity compared with blood samples for PRRSV monitoring. Results observed for both EU and NA PRRS virus detection from PF show that the virus is detectable in PF and 100% concordant with routine diagnostic methods used in veterinarian laboratories, such as testing on serum or blood samples.

The evolution of herd management practices leads to explore new monitoring solution like environmental testing. Therefore, air sampling can be considered as a sample of interest for PRRS virus detection. Preliminary studies show a real correlation between individual serum testing and detection of the virus in the housing of infected animals.

For Veterinary Use Only. For In Vitro Use Only. Regulatory requirements vary by country; products may not be available in your geographic area.