ViroReal® Kit
PRRS Virus EU & NA 1.1

For veterinary use only

ViroReal® Kit PRRS Virus EU & NA 1.1

Order no.	Reactions	Pathogen	Internal positive control
DVEV00113	100	FAM + VIC/HEX channel	Cy5 channel
DVEV00153	50	FAM + VIC/HEX channel	Cy5 channel

Kit contents:

- Detection assay for PRRS virus EU + NA
- Detection assay + target for internal RNA positive control (control of RT-PCR amplification and/or RNA extraction)
- RNA reaction mix
- Nuclease-free water
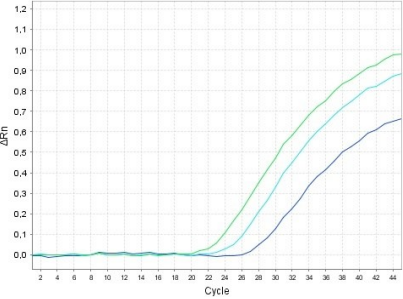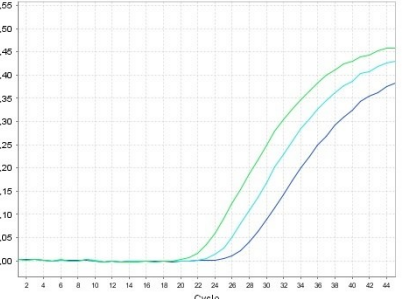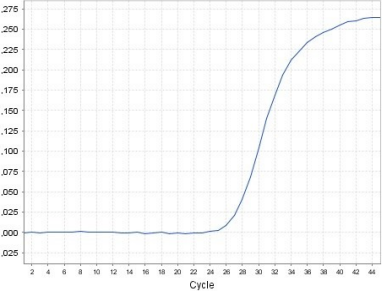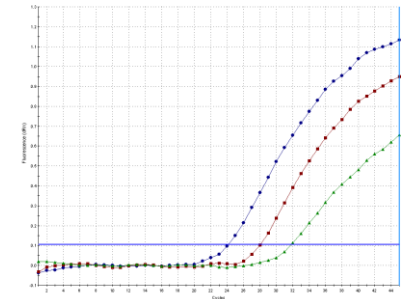- Positive control (RNA) for PRRS virus EU and NA
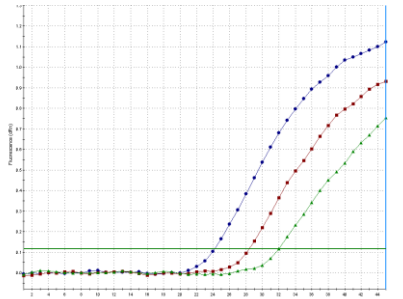
Background: The porcine reproductive and respiratory syndrome virus (PRRSV) is a single strain, positive-sense RNA virus belonging to the order *Nidovirales*, family *Arteriviridae.* This virus causes the Porcine Reproductive and Respiratory Syndrome (PRRS). PRRS is one of the most economically important diseases of swines and is also known as Blue-Ear Pig Disease. The disease is characterised by reproduction defec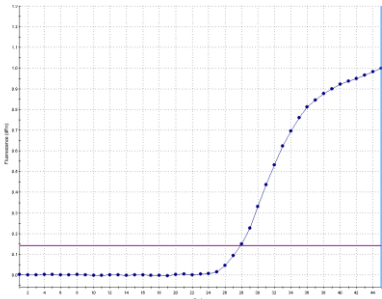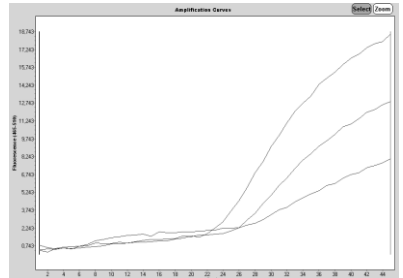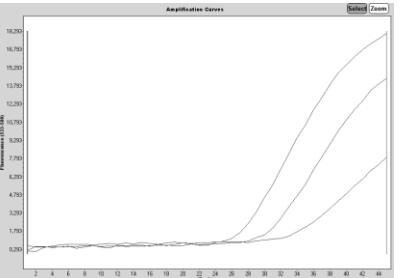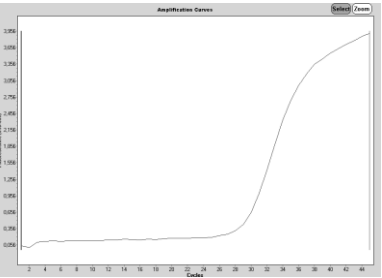ts and by multifactor respiratory problems. European (EU) lineage PRRSV isolates (type 1, prototype strain is the Lelystad Virus) are genetically divergent from North American (US) isolates (type 2, prototype strain is the VR-2332) but cause similar clinical symptoms. A great genetic heterogeneity of field isolates is observed and further complicates diagnosis.

Description: ViroReal® Kit PRRS Virus EU & NA 1.1 is based on the amplification and detection of the open-reading frame 7 including the 3'-untranslated region of both viral lineages PRRS virus EU and PRRS virus NA (PRRSV type 1 and PRRSV type 2) using one-step reverse transcription real-time PCR. The PRRS virus EU lineage is detected in FAM channel. The PRRS virus NA lineage is detected in VIC/HEX channel. This test allows the rapid and sensitive detection and differentiation of RNA of the PRRS virus lineage EU and NA from samples purified from blood, saliva, semen, faeces, nasal secretions, milk and tissue samples of acutely fallen ill pigs or of weak-born piglets (e.g. with the QIAamp Viral RNA Mini Kit, Qiagen).

PCR-platforms: ViroReal® Kit PRRS Virus EU & NA 1.1 is developed and validated for the ABI PRISM® 7500 instrument (Thermo Fisher Scientific), LightCycler® 480 (Roche) and Mx3005P® QPCR System (Agilent), but is also suitable for other real-time PCR instruments.

Specificity and sensitivity: ViroReal® Kit PRRS Virus EU & NA 1.1 has an analytical sensitivity of 12 RNA copies/PCR for PRRSV EU and 20 RNA copies/PCR for PRRSV NA. The limit of detection (LoD95 = smallest number of copies of target RNA which can be detected in 95% of cases) was determined by several replicates around the detection limit. The LoD95 is 56 copies/reaction for PRRSV EU and 35 copies/reaction for PRRSV NA. The ability to detect the PRRS virus RNA in samples is largely dependent upon the efficiency of the RNA extraction. The primers and probes are carefully designed and are based on conserved regions. However, false-negative or less sensitive results might be obtained due to sequence heterogeneity of not yet described clinical subtypes. For validation, PRRS virus vaccine strains Ingelvac (US/NA) and Porcilis (EU), as well as a total of 132 confirmed PRRSV-positive field samples were tested and correctly analysed. Furthermore, the kit was tested on viral and bacterial isolates (BVDV, PCV2, PPV, *B. hyodysenteriae* and *H. parasuis*) and showed no cross-reactivity. The new version 1.1 of the kit has been adapted to currently circulating PRRSV EU-type viruses to allow improved detection of these variants.

References: Kleiboeker SB, Lehman JR, and Fangman TF. 2002. Concurrent use of reverse transcription-polymerase chain reaction testing of oropharyngeal scrapings and paired serological testing for detection of porcine reproductive and respiratory syndrome virus infection in sows. J. Swine Health Prod. 10:251-258.

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Product description v1.9e

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Detection of PRRS virus EU FAM channel	Detection of PRRS virus NA VIC/HEX channel	Detection of internal positive control Cy5 channel
ABI Prism® 7500: FAM channel, 530 nm Detection of PRRS virus EU 1:10 serial dilution of the positive control	**ABI Prism® 7500:** VIC channel, 554 nm Detection of PRRS virus NA 1:10 serial dilution of the positive control	**ABI Prism® 7500:** Cy5 channel, 667 nm Detection of internal RNA positive control
Mx3005P®: FAM channel Detection of PRRS virus EU 1:10 serial dilution of the positive control	**Mx3005P®:** HEX channel Detection of PRRS virus NA 1:10 serial dilution of the positive control	**Mx3005P®:** CY5 channel Detection of internal RNA positive control
LightCycler® 480: FAM channel Detection of PRRS virus EU 1:10 serial dilution of the positive control	**LightCycler® 480:** VIC/HEX/Yellow555 channel Detection of PRRS virus NA 1:10 serial dilution of the positive control	**LightCycler® 480:** Cy5 channel, 667 nm Detection of internal RNA positive control

BactoReal®, MycoReal, ParoReal and ViroReal® Kits run with the same thermal cycling conditions.
RNA and DNA material can be analysed in one PCR run.

For further information on our products please visit our homepage (www.ingenetix.com)

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