ViroReal® Kit PEDV & SDCV

For veterinary use only

ViroReal® Kit PEDV & SDCV

Order no.	Reactions	Pathogen	Internal positive control
DVEV01913	100	FAM + VIC/HEX channel	Cy5 channel
DVEV01953	50	FAM + VIC/HEX channel	Cy5 channel

Kit contents:

- Detection assay for porcine epidemic diarrhea virus (PEDV) + detection assay for swine delta coronavirus (SDCV)
- Detection assay + target for internal RNA positive control (control of RT-PCR amplification and/or RNA extraction)
- RNA reaction mix
- Nuclease-free water
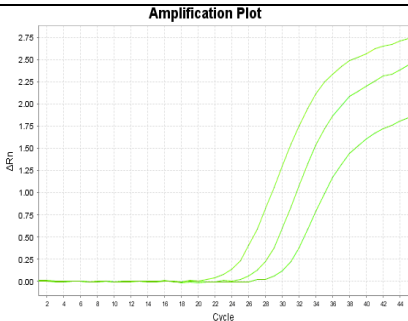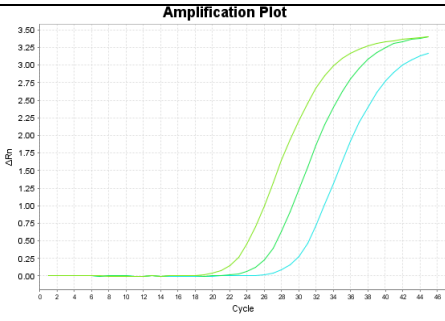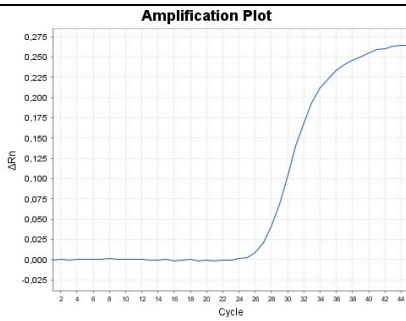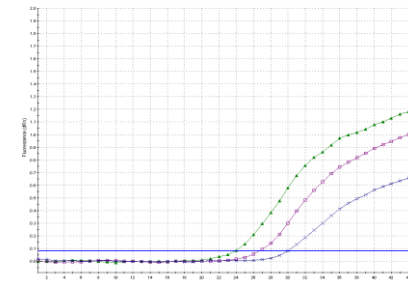- Positive controls (RNA) for PEDV and SDCV
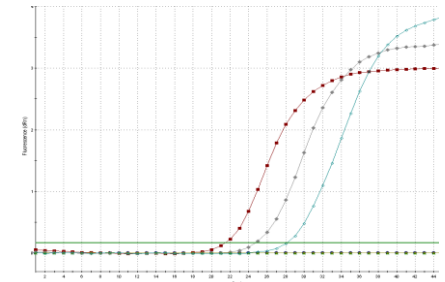
Background: Porcine epidemic diarrhea virus (PEDV), a member of the genus *Coronavirus* (Alphacoronavirus), family *Coronaviridae*, is a positive-sense, enveloped, single-stranded RNA virus. Severity of disease is variable and dependent on the epidemiological status of the herd. When epidemic, PEDV causes acute watery diarrhea and vomiting in a large proportion at all ages of swine. If ende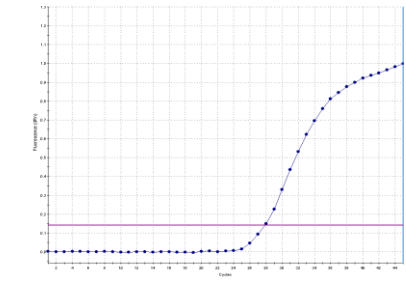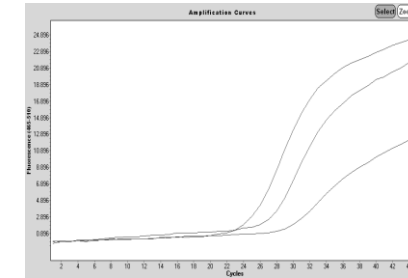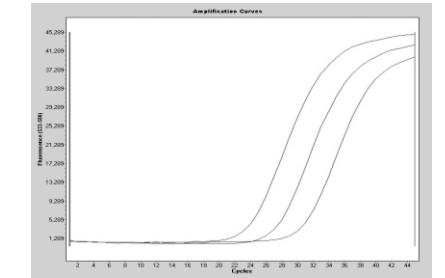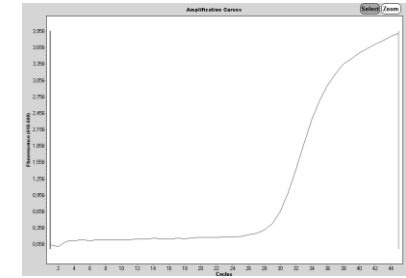mic, then diarrhea is observed with lower morbidity in suckling and recently weaned pigs. The PED virus is similar to, but antigenically distinct from transmissible gastroenteritis virus (TGEV).
Swine delta coronavirus (SDCV, also called porcine delta coronavirus PDCoV) a member of the genus *Coronavirus* (Deltacoronavirus), family *Coronaviridae*, is a positive-sense, enveloped, single-stranded RNA virus. SDCV is a new virus first found in pigs in Hong Kong in 2012 and 2014 in the United States. SDCV causes acute watery diarrhea and vomiting in a large proportion at all ages of swine. SDCV infection is clinically similar to, but genetically distinct from porcine epidemic diarrhea virus (PEDV) and transmissible gastroenteritis virus (TGEV).

Description: ViroReal® Kit PEDV & SDCV is based on the amplification and detection of the nucleocapsid protein gene (N gene) of PEDV (porcine epidemic diarrhea virus) and of the 3'UTR of SDCV (swine delta coronavirus, PDCoV) using one-step reverse transcription real-time PCR. The PED virus is detected in the FAM channel. The SDC virus is detected in the VIC/HEX channel. This test allows the rapid and sensitive detection of PEDV RNA and SDCV RNA isolated from feces of acutely affected pigs (e.g. with the QIAamp Viral RNA Mini Kit, Qiagen).

PCR-platforms: ViroReal® Kit PEDV & SDCV 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 PEDV & SDCV has a sensitivity of 10 RNA copies/PCR for PEDV and of 2 RNA copies/PCR for SDCV. 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 37 target copies/reaction for PEDV and 18 target copies/reaction for SDCV. The kit was tested with one TGEV, one PHEV, three PEDV, eight PRRSV EU, four PPV and seven PCV2 strains. It was positive with PEDV and showed no cross-reaction with the others. ViroReal® Kit PEDV & SDCV is specific for PEDV and SDCV and detects all PEDV strains, and SDCV and porcine coronavirus HKU15 strains published in the NCBI database.

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Product description v1.3e

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