

ViroReal® Kit BVD Virus



Kit approved by Friedrich-Loeffler-Institute (Nr. FLI-B661)

ViroReal® Kit BVD Virus

Order no.	Reactions	Pathogen	Internal positive control
DVEV00613	100	FAM channel	Cy5 channel
DVEV00653	50	FAM channel	Cy5 channel

Kit content:

- Detection assay for BVD virus
- 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 BVD virus



Background: The genus *Pestivirus* is composed of 4 important pathogens: bovine viral diarrhoea virus 1 and 2 (BVDV-1 and BVDV-2), classical swine fever virus (CSFV), and border disease virus of sheep (BDV). Recently a new putative pestivirus species called “HoBi-like,” “BVDV-3,” or “atypical pestivirus,” was identified. The BVD virus is a single strain, positive-sense RNA virus found throughout the world and causes bovine viral diarrhoea (BVD). BVD is a disease of cattle which causes various clinical syndromes including diarrhoea, mucosal disease, reproductive dysfunctions and/or hemorrhagic syndrome. Prenatal infection by BVD results in cattles permanently infected (BVD-PI). Such animals carry the virus throughout their lifetime and constantly secrete large numbers of viral particles.

Description: ViroReal® Kit BVD Virus is based on the amplification and detection of the 5'UTR of BVD virus genome using one-step reverse transcription real-time PCR. It also reacts with some strains of CSFV and BDV. It allows the rapid and sensitive detection of RNA of BVDV-1, BVDV-2 and BVDV-3 from samples purified from blood, serum, tissues (lung, spleen, ear notches and pools of ear notches with up to 25 notches per pool), saliva, urine, semen and milk. BVD virus RNA can be recovered efficiently from sample material using for example the QIAamp Viral RNA Mini Kit (Qiagen) extraction methods.

PCR-platforms: ViroReal® Kit BVD Virus is developed and validated for the ABI PRISM® 7500 instrument (Life Technologies), LightCycler® 480 (Roche) and Mx3005P® QPCR System (Agilent), but is also suitable for other real-time PCR instruments.

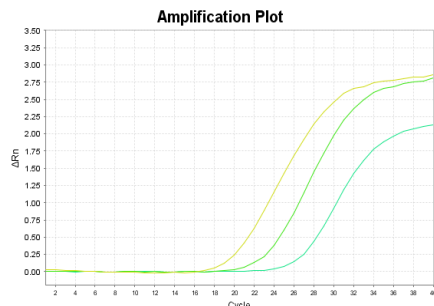
Specificity and sensitivity: ViroReal® Kit BVD Virus has an analytical sensitivity of 4 RNA template copies/PCR. This kit detects all BVDV-1, BVDV-2 and BVDV-3 isolates published in the NCBI database. Furthermore, it detects some strains of classical swine fever virus (CSFV) and border disease virus of sheep (BDV). This kit was tested with 184 BVDV sero-positive and 150 BVDV sero-negative samples. PCR results correlated with serology. Furthermore, pools with up to 25 ear notches were correctly analysed.

References: Houe H, Lindberg A, Moennig V. 2006. Test strategies in bovine viral diarrhoea virus control and eradication campaigns in Europe. *J Vet Diagn Invest.* 18:427-436.

Additional information: ViroReal® Kit BVD Virus can be expanded with extra primers in order to detect also border disease virus of sheep (BDV) and CSFV like pestivirus of ruminants (highly homologue to the classical swine fever virus, CSFV)

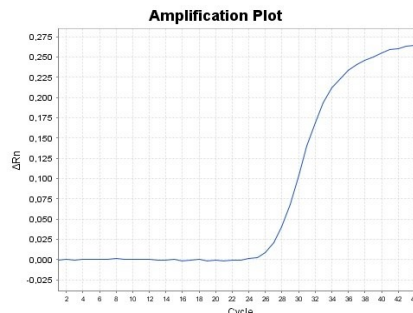
- For the detection of BDV: Expansion primer for Border Disease Virus (order no. ADD01)
- For the detection of CSFV like pestivirus of ruminants: Expansion primer for CSFV like pestivirus (order no. ADD02).

Detection of BVD virus

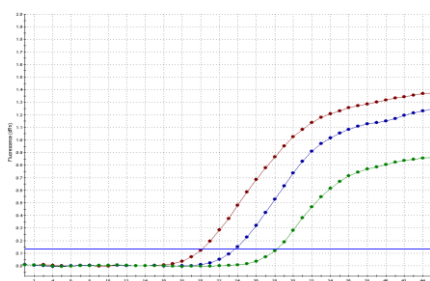


ABI Prism® 7500: FAM channel, 530 nm
1:10 serial dilution of BVDV RNA

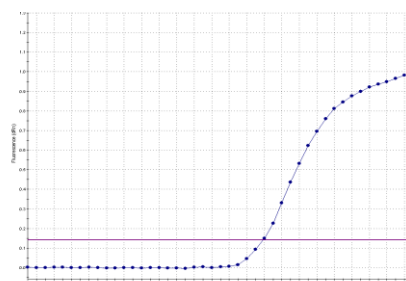
Detection of internal RNA positive control



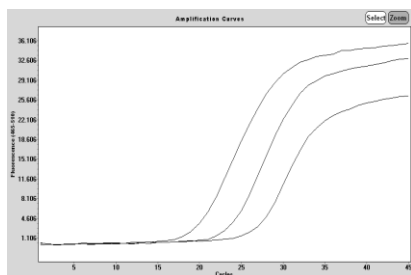
ABI Prism® 7500: Cy5 channel, 667 nm
Detection of internal RNA positive control



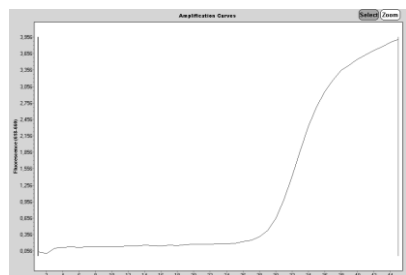
Mx3005P®: FAM channel
1:10 serial dilution of BVDV RNA



Mx3005P®: CY5 channel
Detection of internal RNA positive control



LightCycler® 480: FAM channel
1:10 serial dilution of BVDV RNA



LightCycler® 480: Cy5 channel
Detection of internal RNA positive control

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

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