



PCR Test for the Detection of Bovine Viral Diarrhea and Border Disease

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Product Categories: [Bio X](#), [PCR](#), [Veterinaria](#)

Product Page:

<http://vacunek.com/shop/veterinaria/pcr-test-for-the-detection-of-bovine-viral-diarrhea-and-border-disease/>

Product Description

1. Purpose of the test

ADIAVET™ BVDV REAL TIME kit is intended to detect the Bovine Viral Diarrhoea Virus (BVDV) and the Border Disease Virus (BDV), using real-time Polymerase Chain Reaction (PCR) technology, from whole blood, serum, and tissue specimens of bovine, ovine, caprine and wild cervid, from ear notch of bovine, as well as from milk specimen of bovine, ovine and caprine.

2. Pathogen

Pestiviruses consist in a single strand of positive sense RNA. Bovine Viral Diarrhoea Virus (BVDV), classical swine fever (CSFV) and border disease virus (BDV) in sheep are also members of the pestivirus genus which belongs to the Flaviviridae family (like hepatitis C). BVDV, which induces mucosal disease in bovine, causes economic losses in cattle.

Many countries have started eradication programs of this disease, which involves a perfect management of infected animals. Indeed, those must be detected earlier with a high reliability. However, the prenatal infection of a calf between the 60th and the 120th day of gestation leads to the birth of a persistently infected (PI) animal. These contagious animals are seronegative all their life and positive by virology. The detection of the virus by antigenemy is only possible several weeks after their birth because of the persistence of colostral antibodies. The earlier detection of these persistently infected animals is still necessary in eradication programs.

Since the discovery of DNA in vitro amplification in 1985 (PCR), many scientists have developed virus screening tests using genomic amplification of the RNA also called RT-PCR. Most of these tests allow the detection of minute quantities of BVDV in blood or organs of infected animals, even with less than three months old animals.

3. Description and purpose of the test

This test is based first on the reverse transcription (RT) of RNA into complementary DNA. Then, cDNA is amplified (PCR) by a DNA polymerase using specific primers. Both enzymatic reactions occur in the same tube (One-step RT-PCR).

Amplified products are detected in real-time thanks to a specific labelled hydrolysis probe (5'-
exonuclease technology).

The ADIAVET™ BVDV REAL TIME kit enables the simultaneous detection of:

- BVDV, BDV and CSFV (probe labelled in FAM),

- RNaseP, an internal control of extraction and amplification steps specific from an endogenous RNA (probe labelled with a fluorochrome read in the same spectra as VIC or HEX).

ADIAGENE recommends using this test with RNA purification kits (Adiagene, Qiagen or MachereyNagel).

Other purification kits can be used if they have been validated by the user.