

1. DESCRIPTION

Bovine herpesvirus type 1 (BHV-1) a member of the subfamily Alphaherpesvirinae of the Herpesviridae family. Subtypes of BHV-1 have been described on the basis of restriction enzyme cleavage patterns of viral DNA, these types are referred to as BHV-1.1 (respiratory subtype), BHV-1.2 (respiratory and genital subtype).

Infectious bovine rhinotracheitis/infectious pustular vulvovaginitis (IBR/IPV) is a significant disease among domestic and wild bovine animals. Clinical signs of the infection include symptoms of inflammatory processes on both respiratory and genital organs, and abortion. Young calves can develop a systemic disease affecting visceral organs. BHV-1 is able to establish a latent infection in the trigeminal or sacral ganglia. Animals with a latent BHV-1 infection may serve as a source of infection for susceptible animals if and when the virus is reactivated. The infection is transmitted mainly through respiratory, ocular or genital secretions in a direct contact between animals. However, the infection can also spread through fresh or frozen semen from infected bulls.

VetPCR™ BHV-1 Detection Kit is the direct detection of *bovine herpesvirus* type 1 on the basis of a genetic database, so it can diagnose very fast and accurately. It can amplify only specific gene using the PCR (Polymerase Chain Reaction) method, and take only 3 hours for detection. Therefore, it is a very fast, accurate, reliable technique.

2. STORAGE

The components of VetPCR™ BHV-1 Detection Kit should be stored at -20°C. Under this condition, the kit is stable until expiration date stated on the label.

3. CONTENTS

	Kit 48	Kit 96	
VetPCR™ BHV-1 PCR Pre-mixture	48	96	tubes
DNase/RNase-free water	1	1	vial
BHV-1 PCR Positive control.....	1	1	vial
BHV-1 PCR Positive control Pre-mixture.....	4	8	tubes
Brig™ Molecular Weight marker	1	1	vial
Mineral Oil	1	1	vial
DNA purification kit (see step 6.1)	50	100	tests

4. SPECIMEN

0.5 ml whole blood in EDTA (purple top) tube, or egg (albumen), thymus or spleen.

5. ADDITIONAL REQUIRED MATERIALS

- Disposable gloves
- Pipettes
- Sterile pipette tip
- Vortex mixer
- Centrifuge for microcentrifuge tubes
- Thermal cycler
- Electrophoresis kit
- UV transilluminator

6. PROCEDURE

Please read through the entire procedure before starting.

6.1 DNA PREPARATION

Various manufacturers offer DNA isolation kits. Please carry out the DNA isolation according to the manufacturers instructions. The following standard DNA Purification kit is recommended.

Product	Catalog No.	Manufacturer
Bioingentech™ Genomic DNA Purification Kit (50 test)	230040(50)	Bioingentech Biotechnology Inc.
Bioingentech™ Genomic DNA Purification Kit (100 test)	230040(100)	Bioingentech Biotechnology Inc.

6.2 AMPLIFICATION

1.- Prepare appropriate PCR Premix tubes and one PCR Premix tube for Positive control. Label.

2.- Add 6µl of DNase/RNase-free water into the PCR Premix tube to total volume as 11µl.

3.- Add 2µl of template DNA into the PCR Premix tube to total volume as 13µl.

4.- Add 6µl of DNase/RNase-free water and 2µl of PCR Positive control into a PCR Positive control Premix tube for monitoring of amplification and easy interpretation.

5.- Add mineral oil (11µl). This step is necessary, even when using a thermal cycler that employs a top heating method.

6.- Perform PCR reaction of samples as the below process, using a PCR thermal cycler.

PCR cycle		Temp.	Time
1 Cycle	Initial Denaturation	94°C	2 min.
	Denaturation	94°C	30 sec.
	Annealing	55°C	30 sec.
30 Cycles	Extension	72°C	30 sec.
	Final extension	72°C	5 min.

6.3 DETECTION OF AMPLIFIED PRODUCTS

1.- Prepare 1.5% agarose gel containing Ethidium bromide (Et-Br).

2.- Load 7µl of PCR product, 7µl of positive control and 2µl of Brig™ Molecular Weight marker on agarose gel without adding a loading-dye buffer and perform electrophoresis.

3.- Run electrophoresis by 100V (required about 30~40 minutes).

4.- Identify the result on ultra-violet (UV) transilluminator.

6.4 INTERPRETATION

- Expected PCR product size : 637 bp

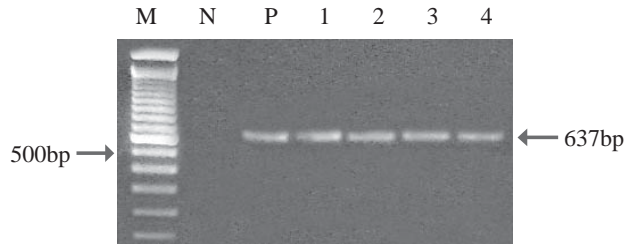


Fig1. Electrophoresis of PCR product by VetPCR™ BHV-1 Detection Kit
Lane M : Brig™ Molecular Weight Marker (Bioingentech Ltd.)
Lane N : Negative control
Lane P : Positive control
Lane 1~4 : BHV-1 Positive sample

7. NOTICE

- For research purpose only. Not for use in diagnostic procedures for clinical purposes. *For in Vitro Use Only.*
- Take care in handling of specimen to minimize risk of infection.
- The PCR process is covered by patents issued and applicable in certain countries. Bioingentech Biotechnology Inc. does not encourage or support the unauthorized or unlicensed use of the PCR process. Use of this product is recommended for persons that either have a license to perform PCR or are not required to obtain a license.

8. TROUBLE SHOOTING

- 1.- In the case of difficult to interpret results due to non-specific bands; reduce amount of template by 1/10 dilution, heated at 65° C for 5 min. and reacts again.
- 2.- Preparation of PCR reaction at room temperature may cause the non-specific band.
- 3.- All procedure should be carried out on ice.

9. ORDERING INFORMATION

Product	Catalog No.
VetPCR™ BHV-1 Detection Kit 48	VET0004B(48)
VetPCR™ BHV-1 Detection Kit 96	VET0004B(96)
Brig™ Molecular Weight Marker	24012



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