

## 1. DESCRIPTION

Toxoplasmosis is the most common parasitic infection worldwide affecting humans and a number of domestic animals. The organism that causes toxoplasmosis is the obligate intracellular protozoan parasite *Toxoplasma gondii*. The cat is the only animal in which sexual reproduction of the organism occurs. Thus, cats are the only domestic animal that has the potential to shed the organism's eggs.

Despite the high prevalence of *T. gondii* infection, significant clinical disease in cats (and other species) appears to be very rare. This implies that many infected animals can be carriers of the parasite with unnoticed symptoms. When disease does occur, it may develop either following primary infection due to an inadequate immune response to stop the invasive tachyzoites, or as a result of reactivated infection due to compromised immunity.

The clinical signs of toxoplasmosis in dogs are usually characterized by ataxia, diarrhoea and respiratory distress. Focal necrotic areas in the lung, liver and brain of infected dogs are common and could lead to development of several clinical signs. Therefore, toxoplasmosis in dogs and other animals can mimic many infectious diseases. Dogs may transmit Toxoplasmosis to humans.

VetPCR™ TOXO.GO Detection Kit is the direct detection of *Toxoplasma gondii* on the basis of a genetic data base, 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 and reliable technique.

## 2. STORAGE

The components of VetPCR™ TOXO.GO 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™ TOXO.GO PCR Pre-mixture .....	48	96	tubes
DNase/RNase-free water .....	1	1	vial
TOXO.GO PCR Positive control .....	1	1	vial
TOXO.GO 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 0.5 ml amniotic fluid, CSF or tissue.

## 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).

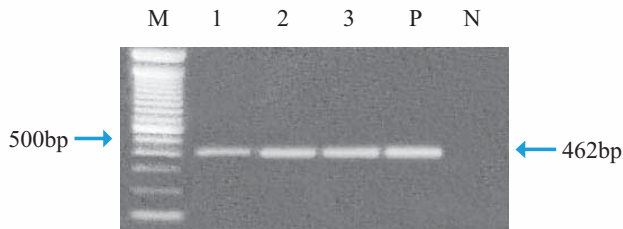
2.- Load 7µl of PCR product, 7µl of positive control and 2µl of Brig™ Molecular Weight marker on agarose gel without adding a loading-dye buffer and perform electrophoresis.

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 : 462 bp



**Fig1.** Electrophoresis of PCR product by VetPCR™ TOXO.GO Detection Kit  
Lane M : Brig™ Molecular Weight Marker (Bioingentech Ltd.)  
Lane 1~3 : TOXO.GO Positive sample  
Lane P : Positive control  
Lane N : Negative control

## 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™ TOXO.GO Detection Kit 48	VET0026C(48)
VetPCR™ TOXO.GO Detection Kit 96	VET0026C(96)
Brig™ Molecular Weight Marker	24012



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