## Introduction

#### INTENDED USE

The InPouch<sup>TM</sup> TF is a self-contained system for the detection of Tritrichomonas foetus from bovine preputial or vaginal samples. The proprietary medium is selective for the transport and growth of T. foetus, while inhibiting the growth of other organisms which can interfere with a reliable diagnosis.

#### **EXPLANATION**

Bovine *Tritrichomoniasis* is a venereally transmitted protozoan parasite. The primary pathological manifestation of this infection is early embryonic death or abortion in impregnated cows. Cows show few other symptoms of infection, while bulls are asymptomatic.

#### PRINCIPALS OF THE PRODUCT

The InPouch<sup>TM</sup> TF is designed to facilitate and simplify the detection of *T. foetus* as the organism is infrequently be found in direct microscopic examination of clinical specimens and serological methods of diagnosis are not reliable. This device conveniently supports the following user needs in a single-exposure system:

- 1. Ease of inoculation
- 2. Proprietary medium selective for TF growth
- 3. Direct microscopic observation of the sample
- 4. Self-contained culture system
- 5. Direct microscopic observation of the culture
- 6. Incubatory capabilities
- 7. Safe transport and preservation of the specimen
- 8. PCR compatible

#### REAGENTS

The InPouch<sup>TM</sup> contains peptones, yeast extract, maltose and other nutrients, amino acids, salts, antifungal and antimicrobial agents in a phosphate buffered saline base constructed to isolate the positive detection of T. foetus.

#### SPECIFICITY

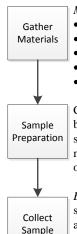
InPouch<sup>TM</sup> TF medium is known to be effective in culturing T. foetus, T. suis, T. galliniae and P. hominis.

#### STORAGE AND SHELF LIFE

Do not **refrigerate or freeze** InPouch<sup>TM</sup> TF tests. Upon receipt, store at room temperature (18°C - 25°C) horizontally, <u>away from direct sunlight</u>. Do not use expired tests. Do not use an InPouch<sup>TM</sup> test if the liquid appears to be cloudy, leaky, dark brown or dried.

## USING THE TEST

#### SAMPLE COLLECTION



Materials needed for the Test:

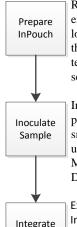
- InPouch<sup>TM</sup> TF test(s)
- Disposable gloves
- Infusion/insemination pipette
- 20ml syringe/pipette bulb per bull/cow
- Laboratory incubator & Microscope (≥100X)

Clip the hair around the preputial orifice in bulls. Flush the preputial cavity with sterile saline solution (not water) to clean out mud and manure if necessary (decreases the risk of overgrowth of non *T. foetus* bacterium).

*Bulls:* direct the pipette to the distal penis in the sheath. Scrape the mucosa of the distal penis and the fornix area while applying suction with syringe or bulb to obtain the specimen.

*Cows:* advance the pipette gently to the floor of the vaginal fornix, and aspirate mucus.

#### INOCULATION



Remove the pouch from the bag, and manually express the liquid so that all the liquid is in the lower chamber. Open the pouch by tearing off the top. There is a pre-formed score to facilitate tearing. Use the integral white tabs to open and secure the mouth of the pouch open.

Insert the sample into the upper chamber of the pouch (0.5 -1.0 mL of specimen). Squeeze a small amount of liquid from the lower to the upper pouch chamber to flush the sample. Minimize the introduction of bubbles or foam. Dispose of both pipette and syringe.

Express the entire contents of the InPouch™ into the lower chamber. Avoid trapping air. Roll the pouch top tightly, until the wire-tape is at the top of the label. Fold the wire tape ends tabs to seal the pouch



#### INCUBATION

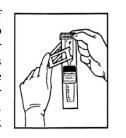
Sample

Incubate the pouch vertically at 35°C - 37°C for up to 6 days. The InPouch<sup>TM</sup> TF is designed for safe transport, if needed. Inoculated InPouch<sup>TM</sup> TF tests should be transported within 48 hours after inoculation and maintained at 15°C - 37°C.

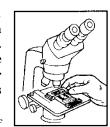
# READING THE RESULTS

### MICROSCOPIC EVALUATION

To search for the presence of microorganisms, place a viewing clip horizontally over the lower chamber of the InPouch and close (the clip is optional). Place the InPouch<sup>TM</sup> on the microscope stage under low power (100x mag.) to look for trichomonads. Use a higher power (200x - 400x mag.) if necessary for confirmation.



Observation of 1 to 10 live, motile *T. foetus* is all that is required for a presumptive positive result. Continue incubation and repeat the microscopic observation daily for six days before a negative result is reported.



Field studies indicate that 98% of positive results will occur within 5 days; up to 2% of positive results may not be detected until the 6<sup>th</sup> day or incubation/observation.

#### **READING TIPS**

For immediate wet mount examination: Before expressing sample to lower chamber and prior to incubation, roll the top edge down *twice* and fold over the end tabs to seal the pouch; observe the sample in the top chamber microscopically.



- \*Tritrichomonas gravitate to the bottom and side edges of the pouch chamber.
- \*Verify that your field of focus is in the liquid and not the textured plastic film layer of the pouch.
- \*Do not mistake Brownian motion or small particles for evidence of *Tritrichomonas* activity. *T. foetus* are relatively large (9-20 µm) and highly motile.

#### ADDITIONAL PRODUCT NOTES

- 1. NEVER refrigerate or freeze the specimen.
- 2. Complete each label with the sample information
- 3. All specimens should be handled according to CDC-NIH recommendations for Biosafety Level 2 (BSL-2) organisms.

# **QUALITY CONTROL**

The InPouch<sup>TM</sup> TF is manufactured in accordance with controlled procedures at BioMed. Each lot undergoes an initial QC performance testing prior to release for consumer use. Additional performance testing is repeated at specific intervals throughout the marked shelf-life of each lot to ensure absolute reliability of the product.

The following is recommended for customers who choose to complete independent QC testing of the InPouch<sup>TM</sup> TF:

- 1. Obtain a sample of viable *Tritrichomonas* organisms in the range 2.0 x 10<sup>5</sup> 2.0 x 10<sup>6</sup> live *cells*/mL
- 2. Inoculate three (3) InPouch<sup>TM</sup> TF diagnostic tests with 1-2 drops of the live culture using a sterile glass Pasteur pipette (~20 40 ul) per the "Inoculation" steps discussed on the reverse side of this insert.
- 3. Incubate the inoculated InPouch<sup>TM</sup> TF diagnostic tests for 24 hours at 37°C

## **NOTES ON QUALITY**

- 1. Too much fecal material can ruin the test by making the medium too cloudy for examination. When necessary, subculture the suspect InPouch<sup>TM</sup> tests into another InPouch<sup>TM</sup>.
- 2. While differential staining can sometimes be of help in *Tritrichomonas* species identification based on the number of flagella, PCR testing is the only reliable means of definitive identification.
- 3. In bovine samples *P. hominis* or other non *T. foetus* protozoa are contaminants.

# **SAFETY**

The InPouch<sup>TM</sup> TF is for veterinary protozoa identification and test results only.

Consult your local State Department of Agriculture regulations before use. Some states require that only certified veterinarians collect and read bovine TF cultures and/or submit samples for PCR testing.

The InPouch growth medium suppresses but does not eliminate yeast and bacterial growth. A build-up of gas from bacterial growth can be vented by opening the pouches inside a BSL-2 rated biological safety cabinet.

*WARNING*: This product contains chemicals known to the State of California to cause cancer, birth defects and other reproductive harm.

## DISPOSAL

Since InPouch<sup>TM</sup> TF has potential for containing live, infectious materials, the InPouch<sup>TM</sup> TF must be destroyed by autoclaving at 121°C for 20 minutes or other suitable means for sterilization and disposal of BSL-2 organisms.

#### REFERENCES

BonDurant. <u>Vet Clin North Am Food Anim Pract</u>. 1997. 13(2):345-61

Thomas, et al. Agri-Practice. 1990. 11:13-17

Borchardt, et al. Veterinary Medicine. 1992. 11:104-112

# Tritrichomonas foetus LIVE CULTURE

Live cultures of *T. foetus* (clinical isolate) for research, training and QC purposes are available (N. American customers only). This live culture (positive control) can be purchased from Biomed Diagnostics (**Catalog #11-1015**).

To maintain an active culture, inoculate a new pouch with one drop (approximately  $40\mu l$ ) of the actively growing culture and incubate at 37°C for 24 hours. They can then be moved to a 32°C incubator or to room temperature. Subculture every 3-4 days when the organisms reach a concentration of 1 x  $10^5$ /ml

# InPouch<sup>TM</sup> TF

Tritrichomonas foetus Test

Catalog No. 11-1010 Catalog No. 11-1003 10 Test Kit 100 Test Kit

A SELECTIVE CULTURE SYSTEM FOR THE DIAGNOSIS OF BOVINE

Tritrichomonas foetus

For Veterinary Use Only
For In Vitro Diagnostic Use Only



Manufactured by:

Biomed Diagnostics, Inc.

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