



Technical Bulletin

Microbiology-Tritrichomonas-foetus

Tritrichomonas foetus Culture Procedure

Principle:

Tritrichomonas foetus is a flagellated protozoan parasite that can cause chronic large bowel diarrhea in cats. This organism exists only as a trophozoite, no cysts are formed. The trophozoite is approximately 10 -12 microns in length. There are three to five anterior flagella and an undulating membrane with a trailing flagella along the free edge. Refer to the diagram that follows:



Tritrichomonas foetus

*Please note that most of these features are not easily observed with standard microscopy. What **can** be observed is the typical erratic motility of this organism.*

Direct microscopic examination of feces in saline most often yields results that are negative for trichomonads in a cat that is infected with the organism. For this reason the culture medium in the “**InPouch TF**” system is a valuable tool for enabling selective growth and identification of Tritrichomonas foetus. Giardia and non-pathogenic trichomonads will not grow in the medium. Bacteria will not proliferate if the pouch is **incubated at room temperature**.

Other key points to remember about the “InPouch TF” system for the culture of Tritrichomonas foetus are:

- The two-compartment system allows for direct examination of the specimen in the upper chamber before inoculation of the lower chamber for incubation. The fluid inside of the system flows from one chamber to the other if pressure is applied.
- The “InPouch TF” should be stored in a vertical position at room temperature away from direct light.
- The “InPouch TF” has a shelf life of 15 months from the date of manufacture.
- The fecal sample should not be refrigerated. The trichomonads will not remain viable at this temperature (4°C).

Procedure:

- Pull open the wired end-tabs and tear open the pouch at the notch.
- Open the pouch sufficiently to admit a wooden applicator stick by pulling the closure tape’s middle tabs apart.

INOCULATION:

1. Pick up approximately 0.05 grams of freshly voided feces on the end of the applicator stick. **The fecal sample should be no larger than the size of a peppercorn.**
2. Insert the applicator stick with sample into the liquid of the systems upper chamber.
3. Remove the specimen from the stick by rubbing the stick with your fingers through the walls of the pouch.

IMMEDIATE MICROSCOPIC EVALUATION:

1. Close the top of the pouch, fold down the top edge and roll down 3 times. Lock the roll with the wired end-tabs.
2. Inspect the upper chamber of the pouch microscopically under low power (20x or 40x) for the presence of trichomonads.
3. The specimen can be concentrated by placing in a vertical position for 15 minutes and looking along the lower edge of the upper chamber for the motile trophozoites.

FOR CULTURE AND MICROSCOPIC EVALUATION:

1. Express the contents of the upper chamber into the lower chamber.
2. Roll down the pouch until the tape is at the top of the label. Lock the roll with the wired end-tabs.
3. Incubate the pouch at **room temperature**. Always incubate the pouch in a vertical position away from direct light.
4. Before examining the contents of the pouch under the microscope mix the contents by pulling the pouch up and down across the edge of a counter approximately 3 – 4 times.
5. Examine the lower chamber of the pouch microscopically under low power (20x or 40x) for the presence of motile trichomonads.
6. Repeat evaluations every 2 days for 12 days.
7. Pouches may be discarded if the culture remains negative for 12 days.

Important to note (or reiterate):

- The specimen used for inoculation of the “InPouch TF” kit should be approximately 0.05 grams of freshly voided feces (no larger than the size of a peppercorn).
- The “InPouch TF” kit should be stored at **room temperature**, in a vertical position, away from direct light before and after inoculation.
- Fecal samples should be free of cat litter. This will desiccate the sample and destroy the fragile trichomonads.
- The specimen should not be stored at refrigerator temperature at any time. The trichomonads will not survive this temperature.

To order: Call Phoenix Central Lab front office and request “Trichomonas (Tritrichomonas) culture pouches” for test #1213 (cost is \$10.00 per pouch system).

(For a published reference please refer to: Gookin, Foster, Poore, Stebbins, and Levy; “Use of a commercially available culture system for diagnosis of Tritrichomonas foetus infection in cats”; J. Am. Vet. Med. Assoc, 2003; 222:1376-1379)