



Tritrichomonas foetus testing solutions

Real-time polymerase chain reaction (PCR) testing options for *T. foetus*

What is bovine trichomoniasis?

Bovine trichomoniasis is a sexually transmitted disease caused by *Tritrichomonas foetus*, which is a flagellated protozoan parasite. Bulls are the main carriers of the parasite and, once infected, the disease is chronic for the animals because the parasite persistently infects them for life. Infected bulls will show no signs of infection but can transmit the organism by natural breeding.

T. foetus colonizes in the cow's vaginal, uterine, oviduct, and preputial epithelium, and results in embryonic death, abortion, and infertility of the female. The primary clinical signs of bovine trichomoniasis are infertility and repeated estrus cycles postbreeding. In addition to reduced calving rates and calf crops extending longer than 3–6 months, an increased number of cows may receive nonpregnant abnormal reproductive diagnoses, such as endometritis and pyometra.

The VetMAX-Gold Trich Detection Kit

The Applied Biosystems™ VetMAX™-Gold Trich Detection Kit is the first USDA-licensed *T. foetus* diagnostic test that has successfully passed the USDA's thorough review process. The license application with the USDA requires evidence of both the effectiveness of the real-time PCR (qPCR) test and compliance of the production and quality systems at the manufacturing site. This highly sensitive test allows for pooling up to five samples with 96.16% accuracy.

The VetMAX-Gold Trich Detection Kit was USDA-registered in 2014 and is still the only commercially available diagnostic kit with USDA approval. The kit has been validated with both Applied Biosystems™ MagMAX™ Pathogen RNA/DNA Kit and Applied Biosystems™ MagMAX™ CORE Nucleic Acid Purification Kit on the Applied Biosystems™ 7500 Fast Real-Time PCR System and the Applied Biosystems™ QuantStudio™ 5 Real-Time PCR System.

Benefits of PCR testing include:

Fast and simple to use

- Simplified lab operation—potential for same-day or next-day results compared to cultured samples
- Easily automated for high-throughput testing

Economical

- Can be used to test pools of up to five samples
- Pooling of samples helps reduce cost to producer

Reliable

- Helps improve reproducibility across labs and across states

Custom trichomonas sample preparation solutions

The Applied Biosystems™ *T. foetus* Reagents TAMUC and Applied Biosystems™ *T. foetus* Controls TAMUC, sold separately, target the ribosomal RNA rather than just DNA, generating earlier C_t values due to higher copy numbers of the target template. This is the first commercial reverse transcription (RT) qPCR reagent for amplification of *T. foetus* RNA and DNA that is optimized for multiplex PCR amplification. Smegma enrichment is not required when using these custom reagents and controls in your laboratory.

The amplification assay consists of a single-well (or single-tube) RT-qPCR where *T. foetus* RNA, DNA, and Applied Biosystems™ Xeno™ Control RNA targets are amplified in real time using fluorescent Applied Biosystems™ TaqMan™ probes.

T. foetus Reagents TAMUC include:

- Applied Biosystems™ *T. foetus* Primers and Probes Mix TAMUC—for optimized multiplex RT-qPCR amplification of *T. foetus* RNA, DNA, and Xeno control RNA
- Applied Biosystems™ TaqMan™ Fast Virus 1-Step Master Mix
- Nuclease-free water

The *T. foetus* Controls TAMUC serve as amplification controls in the RT-qPCR. The controls include:

- Applied Biosystems™ *T. foetus*-Xeno™ Control RNA Mix
- Applied Biosystems™ *T. foetus*-Xeno RNA—serves as an internal control for the RNA or DNA isolation process and as a monitor for the presence of PCR inhibitors

Ordering information

| Product | Type | Quantity | Cat. No. |
|--|-----------------|---------------|----------|
| VetMAX-Gold Trich Detection Kit | Real-time PCR | 100 reactions | 4483869 |
| Workflow products | | | |
| MagMAX Pathogen RNA/DNA Kit | Sample prep | 480 preps | 4462359 |
| MagMAX CORE Nucleic Acid Purification Kit | Sample prep | 100 reactions | A32700 |
| | | 500 reactions | A32702 |
| KingFisher Flex Purification System with 96 Deep-Well Head | Sample prep | 1 instrument | 5400630 |
| <i>T. foetus</i> Reagents TAMUC | Reagent RT-qPCR | 100 reactions | A51086 |
| <i>T. foetus</i> Controls TAMUC | Control RT-qPCR | 100 reactions | A51087 |
| 7500 Fast Real-Time PCR System with Dell Notebook | Analysis | 1 instrument | 4365464 |
| QuantStudio 5 Real-Time PCR System, 96-well, 0.1 mL, desktop | Analysis | 1 instrument | A28573 |

Find out more at thermofisher.com/animalhealth

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