applied biosystems



VetMAX-Gold MAP Detection Kit

USDA-licensed real-time PCR test for the detection of *Mycobacterium avium* subsp. *paratuberculosis* (MAP)

Laboratories leverage the latest MAP diagnostic solutions to provide their veterinarian and producer customers with the answers they need to limit their economic exposure to Johne's disease. In doing so, laboratories help safeguard their reputation and their customers' livelihood.

Licensed by the USDA, the Applied Biosystems[™] VetMAX[™]-Gold MAP Detection Kit enables:

- Rapid detection of the presence of MAP in beef and dairy cattle
- Delivery of accurate and actionable test results to veterinarians and producers
- Efficient herd management to help limit the economic impact of Johne's disease

Features

 The VetMAX-Gold MAP Detection Kit has successfully completed a regulated validation process that confirms the effectiveness of the PCR test

- Routine monitoring of our manufacturing site for compliance with production and quality system guidelines
- Routine monitoring of product quality against a set of U.S. field samples
- Includes proprietary internal positive control (Applied Biosystems[™] VetMAX[™] Xeno[™] IPC) to help prevent false signals from nonspecific targets
- Validated for pools of up to 5 samples
- Part of a complete workflow tailored for MAP detection
- Improved sensitivity and faster results than culture—from feces to PCR results in ~4 hours
- Technical support for seamless integration of the kit within your workflow



USDA validation performance data

Individual and pooled (n=5) bovine fecal samples of known MAP status were tested using the MAP workflow. Samples were obtained from 9 different US states.

The results show that the VetMAX-Gold MAP Detection Kit is a highly robust test that enables accurate and actionable results.



96.2% sensitivity and 96.4% specificity on individual samples*



96.2% sensitivity and 100% specificity on pools of 5 samples**



100% agreement between all testing labs, serials, and days—and highly precise for inter- and intra-laboratory use[†]

Paratuberculosis

Johne's disease, or paratuberculosis, is a worldwide animal health problem affecting ruminants. It is caused by a MAP infection. The presence of the disease can have serious production-limiting consequences and may cause significant economic loss in herds. The disease is difficult to diagnose because of long incubation times. It is crucial to identify subclinical disease in animals that can shed

the organism over long periods, acting as the source of infection for other members of the herd. The combined use of different diagnostic test methods, such as ELISA and real-time PCR tests, helps to identify and remove "shedders" earlier, thus helping to reduce the hazard of infection for other healthy animals.

Workflow

Samples

Nucleic acid extractions

Amplification

Usable matrices

- Validated for feces samples from cattle
- Pooling of up to 5 samples
- Workflow optimized for convenient 0.8 g feces samples

Applied Biosystems[™] MagMAX[™] Total Nucleic Acid Isolation Kit (AM1840)

- Purify DNA away from PCR inhibitors in feces
- Optimize nucleic extraction for the lysis-resistant MAP bacteria
- Automate for higher-throughput sample processing using the Thermo Scientific™ KingFisher™ Flex Magnetic Particle Processor with 96 Deep-Well Head

VetMAX-Gold MAP Detection Kit

- Tests with single-well duplex real-time PCR based on unique proprietary gene target, highly specific for MAP
- Demonstrated high sensitivity (96.2%) and specificity (96.4–100%)*
- 100% repeatability and reproducibility*
- Enables reliable results with optimized master mix that reduces PCR inhibitors
- Helps prevent false-negative results using VetMAX Xeno IPC to monitor for PCR inhibitors

^{*} Bovine fecal samples of known MAP status (n=260).

^{**} Pools of bovine fecal samples of known MAP status (n=75).

[†] Bovine fecal samples of known MAP status (n=480).

 $^{^{\}ast}$ Data from USDA validation study.



Ordering information

Product	Quantity	Cat. No.
VetMAX-Gold MAP Detection Kit	100 reactions	A29809
Workflow products		
MagMAX Total Nucleic Acid Isolation Kit	100 preps	AM1840
KingFisher Flex Magnetic Particle Processor with 96 Deep-Well Head	1 instrument	5400630
Applied Biosystems 7500 Fast Real-Time PCR System with Dell Notebook	1 instrument	4365464

