VetMAX *M. paratuberculosis* 2.0 Kit

Detect *Mycobacterium avium* subsp. *paratuberculosis* (MAP) in multiple matrices and species

Features

The Applied Biosystems™ VetMAX™ *M. paratuberculosis* 2.0 Kit is a screening test for the detection of MAP in multiple matrices and species. The test is part of a fully integrated, single-vendor workflow that includes the Applied Biosystems™ MagMAX™ sample preparation system for DNA extraction and purification and the Applied Biosystems™ 7500 Real-Time PCR System.

Benefits

Confidence in results

• Use with a wide range of samples in the same workflow

• Go from feces to PCR results in ~4 hours

• Get earlier detection than with ELISA

• Validated for different automation platforms

• Receive technical support and training from a dedicated animal health team

Results

The VetMAX *M. paratuberculosis* 2.0 Kit was evaluated on a panel of positive and negative field samples according to the AFNOR NF U47-600 standard. The status of the samples was determined previously using other MAP diagnostic methods.

Sensitivity and specificity of the test were determined on 936 fecal samples. The panel included samples of low, middle, and high positive shedders as well as negative samples.

The VetMAX *M. paratuberculosis* 2.0 Kit detected low, medium, and high shedders with high diagnostic sensitivity. Negative samples were reliably identified, resulting in a diagnostic specificity of up to 98% (Figure 1).

Figure 1. Interpretation of results.

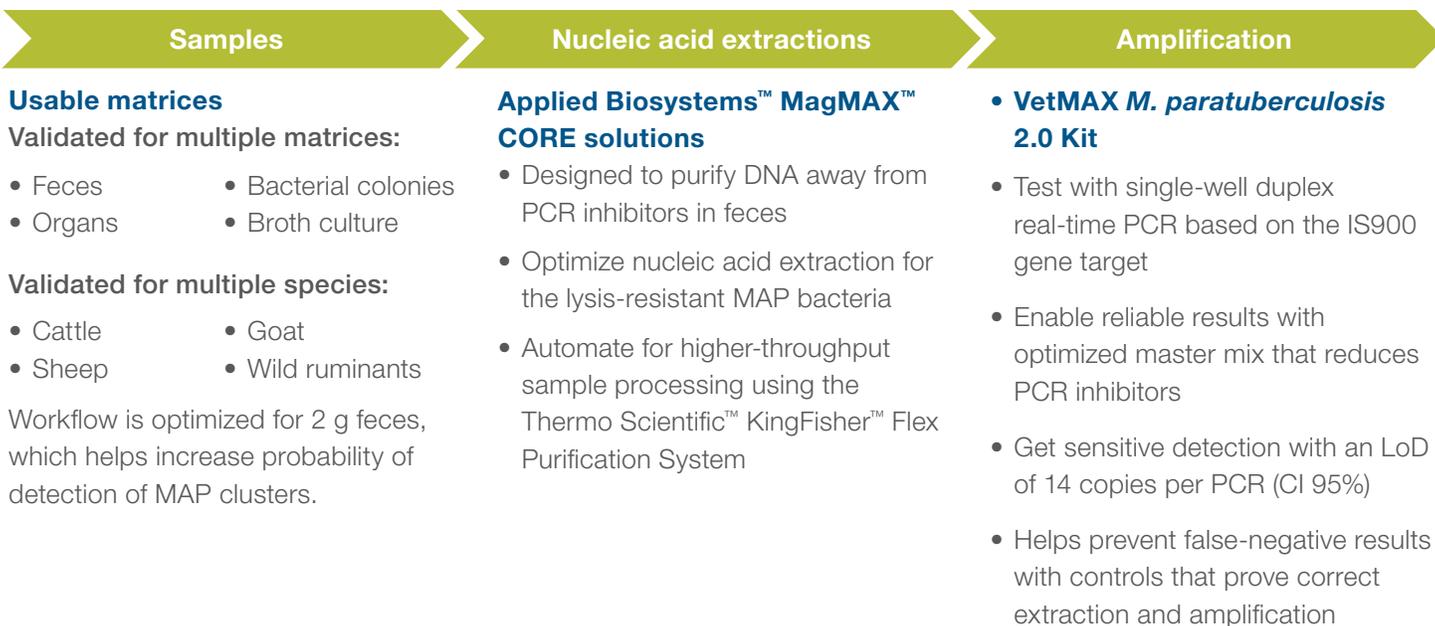| Laboratory	Number of fecal samples tested				Diagnostic sensitivity	Diagnostic specificity
	Positive			Negative		
	Low	Medium	High			
France (Thermo Fisher Scientific)	5	9	6	321	85%	95.64%
France (Creuse)	25	12	1	579	66–92%	96–98%
France (Poitou-Charentes)	0	37	0	190	100%	ND
Belgium (ARSIA)	21	17	0	241	76–97%	61–73%
Czech Republic (OIE lab)	6	14	19	1	100%	NA
Overall					66–100% (risk 5%)	61–98% (risk 5%)

NA = Not applicable; ND = Not determined

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Paratuberculosis

Johne's disease, or paratuberculosis, is a worldwide animal health problem affecting ruminants. It is caused by infection with *Mycobacterium avium* subsp. *paratuberculosis* (MAP). 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. The identification of subclinical disease in animals, which can shed the organism over long periods and thus be the source of infection for other members of the herd, is crucial for disease control.

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.

Samples	Nucleic acid extractions	Amplification

Usable matrices

Validated for multiple matrices:

- Feces
- Organs
- Bacterial colonies
- Broth culture

Validated for multiple species:

- Cattle
- Sheep
- Goat
- Wild ruminants

Workflow is optimized for 2 g feces, which helps increase probability of detection of MAP clusters.

Applied Biosystems™ MagMAX™ CORE solutions

- Designed to purify DNA away from PCR inhibitors in feces

- Optimize nucleic acid extraction for the lysis-resistant MAP bacteria

- Automate for higher-throughput sample processing using the Thermo Scientific™ KingFisher™ Flex Purification System

• VetMAX *M. paratuberculosis* 2.0 Kit

- Test with single-well duplex real-time PCR based on the IS900 gene target

- Enable reliable results with optimized master mix that reduces PCR inhibitors

- Get sensitive detection with an LoD of 14 copies per PCR (CI 95%)

- Helps prevent false-negative results with controls that prove correct extraction and amplification

Ordering information

Product	Type	Quantity	Cat. No.
VetMAX *M. paratuberculosis* 2.0 Kit	Real-time PCR	100 tests	MPTSA
Workflow products			
MagMAX CORE Nucleic Acid Purification Kit	Sample prep	100 reactions	A32700
MagMAX CORE Mechanical Lysis Module	Sample prep	100 reactions	A32836
MagMAX CORE Glass Microbeads	Sample prep	100 reactions	A37489
KingFisher Flex Purification System with 96 Deep-Well Head	Sample prep	1 instrument	5400630
7500 Real-Time PCR System with Dell Notebook	Analysis	1 instrument	4363917
Related products			
VetMAX MAP Screening Kit	Real-time PCR	100 tests	4468847
VetMAX MAP IS900-F57 Kit	Real-time PCR	100 tests	TMPT
PrioCHECK MAP Ab 2.0 Plate Kit	ELISA	5-plate kit (460 samples)	63325
		30-plate kit (2,760 samples)	63328
PrioCHECK Ruminant MAP Ab Serum Plate Kit	ELISA	480 tests (5 plates)	VETPTRS5

Find out more at **thermofisher.com/animalhealth**

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