THE qPCR TO EFFICIENTLY MANAGE MAP IN THE FIELD

PCR

ID Gene® Paratuberculosis Duplex

- **Superior sensitivity** to facilitate detection of infected animals and identify new herd breakdowns
- **The most reliable qPCR** thanks to:
  - ✓ an exogenous mycobacterial control to confirm pathogen lysis and verify the absence of PCR inhibitors
  - ✓ a calibrated positive control to detect variations in analytical sensitivity
- **Manage culling priorities** and differentiate between passive carriers and chronically-infected animals thanks to a positive control calibrated at 3000 Map / gr of faeces
- **Easiest sample preparation protocol** on the market, without any weighing step

WITH YOU AT EVERY STEP

ID.vet

THE MOST RELIABLE MAP qPCR

Real-time PCR assay for the relative qualitative detection of *Mycobacterium avium* subsp. *Paratuberculosis* in:

- ✓ ruminant faeces (individual samples or pools of up to 10)
- ✓ boot swabs
- ✓ mycobacterial culture

OPTIMIZE SENSITIVITY
THANKS TO A COMPLETE SET OF REAGENTS FOR MAP TESTING

IDvet's complete MAP PCR range allows for improved sensitivity, and therefore earlier detection of infected animals.

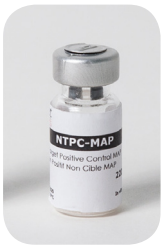
EZPREP rapid sample preparation kit for better test sensitivity and reproducibility thanks to the production of homogenous faecal extracts.

MAGMAP magnetic bead extraction kit specifically designed to improve extraction and purification of MAP DNA from ruminant faeces samples.

IDMAP amplification kit with superior sensitivity to facilitate detection of infected animals and identify new herd breakdowns.

VERIFY MYCOBACTERIA LYSIS AND DETECT PCR INHIBITORS
THANKS TO AN EXOGENOUS CONTROL

The only Map qPCR to include a mycobacterial exogenous control which is added to each field sample before bacterial lysis and DNA extraction: confirm mycobacterial lysis and the absence of inhibitors in each well.



VERIFY MYCOBACTERIA LYSIS AND DETECT PCR INHIBITORS
THANKS TO AN EXOGENOUS CONTROL

The only Map qPCR to include a target positive control consisting of freeze-dried naturally-infected faeces, and calibrated at between 10 and 100 times the method detection limit (MDL): monitor the Cq value of the TPC over time to verify that analytical sensitivity remains constant.

DETERMINE CULLING PRIORITIES

When used in eradication programs, **the combination of PCR and ELISA will identify a greater number of positive animals** than ELISA testing alone.

It is generally not possible, however, to cull all positive animals. By first using ELISA to determine herd seroprevalance, the IDMAP qPCR may be used to determine culling priorities in infected herds, thanks to the **positive control calibrated at 3000 mycobacteria / gr of faeces***.

- **If the sample Cq is earlier than the positive control Cq:**

the sample contains more than 3000 mycobacteria / gr of faeces
⇒ the animal is likely to be a chronic shedder and should be culled.

- **If the sample Cq is later than the positive control Cq:**

the sample contains less than 3000 mycobacteria / gr of faeces
⇒ the animal is likely to be a passive carrier.

** Data obtained further to a 2-year kinetic field study conducted in Brittany, France: over 1000 cows were tested by both culture and PCR. Details available upon request.*

Table 1: Possible control strategies using qPCR, depending on the herd seroprevalence

	SEROPREVALENCE		
	LOW (<3%)	**MODERATE (3-10%)**	**HIGH (>10%)**
OBJECTIVE	Maintain Paratb certification	Decrease Map pressure	
POOL SIZE	Individual or pools of 5	Individual or pools of 5 or 10	Individual or pools of 5 or 10
RE-TESTS	All individuals from positive pools	All individuals from positive pools	All individuals from PCR pools with early Cq values
CULLING PRIORITY	All animals positive by either ELISA or PCR	All animals with > 3000 Map / gr of faeces All ELISA-positive animals	
		Re-test all animals within 6 or 12 months	

Example: Analysis of 515 animals from an infected herd in Scotland, with 2% seroprevalence

Animals were tested in parallel using:

- the ID Screen® Paratuberculosis Indirect ELISA, and
- the IDvet MAP PCR method (EZPREP + MAGMAP + IDMAP)

Results:

	NB OF MAP / GR OF FAECES	SEROLOGICAL STATUS		TOTAL
		+	-	
PCR +	more than 3000	★ 0	★ 3	87
	less than 3000	★ 5	79	
PCR -	-	★ 6	422	428
TOTAL	-	11	504	515

★ Chronic shedders and ELISA-positive animals = priority candidates for culling

FLEXIBLE AND EASY-TO-USE

- **Rapid 50-minute** amplification protocol
- **Compatible** with most extraction systems and with all thermocyclers
- Uses the same extraction and amplification **protocols common to all ID Gene™ PCR tests**: test other pathogens (DNA or RNA) on the same plate
- **Ready-to-use reagents**: the amplification reaction mix contains all the primers, probes and master mix required to run the qPCR. No pre-mixing required.

ORDERING INFORMATION

qPCR kit

PRODUCT NAME	ID Gene® Paratuberculosis Duplex PCR	
SAMPLE TYPES	Faeces, boot swabs or mycobacterial culture	
SPECIES	Ruminants	
PRODUCT CODE	IDMAP-50	IDMAP-100
FORMAT	50 preps	100 preps

Preparation kit for faeces samples

PRODUCT NAME	ID Gene® Easy preparation of faeces sample
DESCRIPTION	Dropper system for faeces sample preparation, without any weighing step
PRODUCT CODE	EZPREP
FORMAT	100 EZ Drop bottles (preps)

Extraction range

DESCRIPTION	Extraction robots	Magnetic beads *Specific for MAP*	Magnetic beads *20-minute-protocol*	Spin columns
PRODUCT CODE	IDEAL32 / IDEAL96	MAGMAP192	MAGFAST384 + LMAP lysis buffer	SPIN50 / SPIN250
FORMAT	32 / 96 preps	192 preps	384 preps	50 / 250 preps

ELISA kit

PRODUCT NAME	ID Screen® Paratuberculosis Indirect ELISA		
SAMPLE TYPES	Serum, plasma or bovine milk		
SPECIES	Ruminants		
PRODUCT CODE	PARAS-5P	PARAS-10P	PARAB-5P
FORMAT	5 strip plates, 480 tests	10 strip plates, 960 tests	5 strip plates, 240 tests (biwell)

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