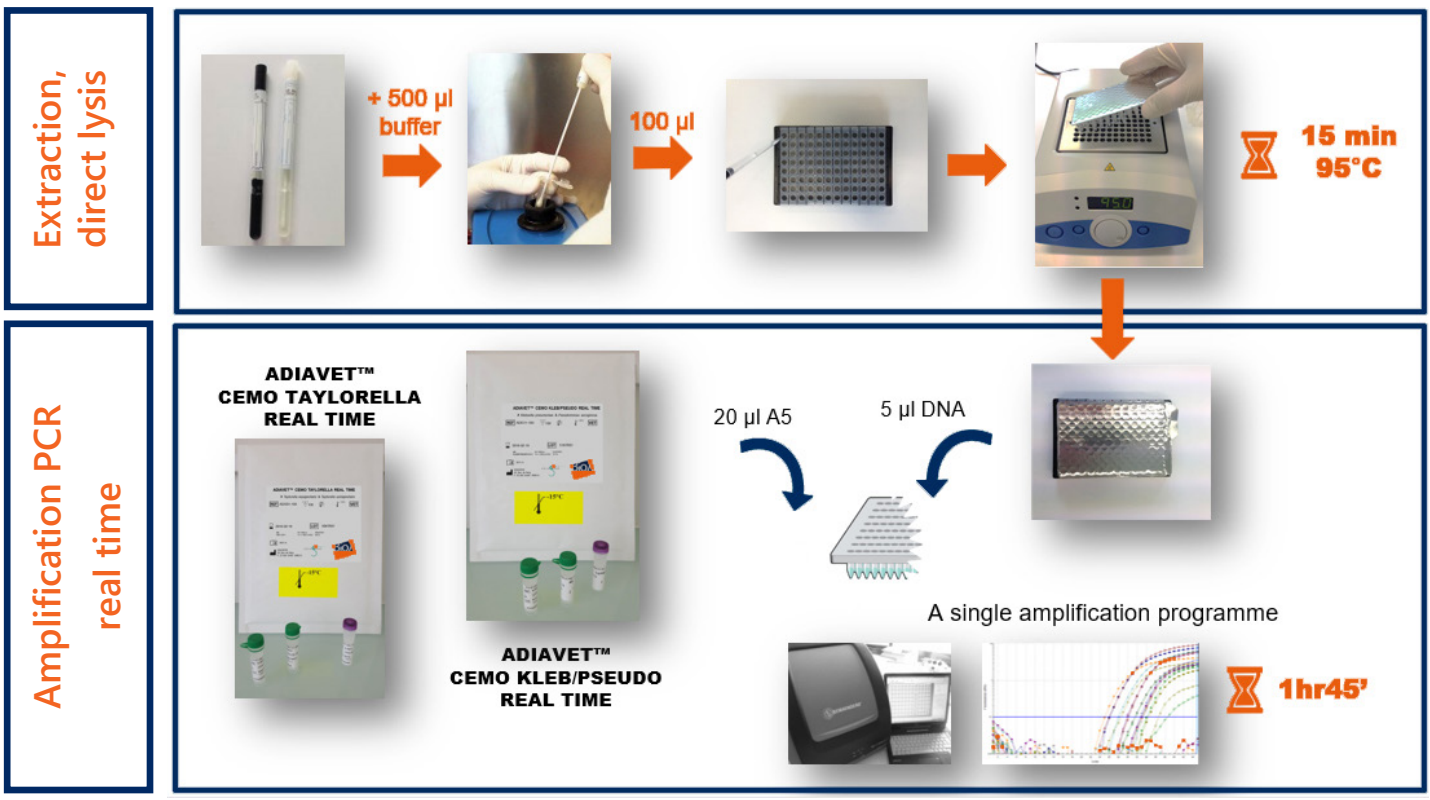
ADIAVET™ CEMO REAL TIME

Quick detection of contagious equine metritis by real-time PCR

Contagious equine metritis is a sexually transmitted disease specific to equids caused by the bacterium *Taylorella equigenitalis* that is notifiable to the OIE . This disease can have reproductive consequences (sterility and sometimes abortions). Infected stallions are asymptomatic. In mares the infection is characterized by abundant vaginal exudate. Other bacteria, such as *Taylorella asinigenitalis*, *Klebsiella pneumoniae*, and *Pseudomonas aeruginosa*, are also found in metritis and may require treatment.

The combination of a **quick protocol** for treating the samples (swabs, semen, bacterial cultures) and two triplex real-time PCR kits, **ADIAVET™ CEMO TAYLORELLA REAL TIME and ADIAVET™ CEMO KLEB/PSEUDO REAL TIME**, allows rapid, specific, sensitive identification of these four pathogens.



Advantages

- Sample preparation method that is quick, easy, and inexpensive
- Ready-to-use PCR reagents
- Kits stable for 12 months at -20 °C
- DNA stable for 24 hours at 4 °C
- Swabs stable for 7 days at room temperature
- Possibility of using swabs without charcoal friends
- Possibility of extraction on silica columns
- Validated according to standard NF U47-600

Triplex PCR kit references

	ADIAVET™ CEMO TAYLORELLA REAL TIME (réf. ADI501-100)	ADIAVET™ CEMO KLEB/PSEUDO REAL TIME (Réf. ADI511-100)
FAM	*Taylorella equigenitalis*	*Klebsiella pneumoniae*
CY5	*Taylorella asinigenitalis*	*Pseudomonas aeruginosa*
HEX	IPC amplification	IPC amplification

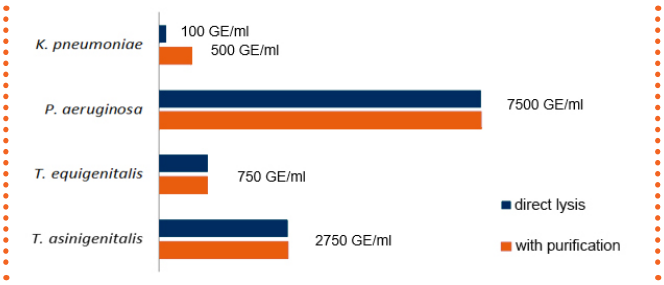
- Positive controls included in kits
- DL_{PCR} and sentinel controls for help in adopting the method available on request

PERFORMANCE

PCR

- 100% inclusiveness (more than 20 strains/targets tested)
- 100% exclusiveness (more than 100 strains tested)
- DL_{PCR} ≤ 20 GE/PCR GE: genome equivalent

DL OF THE METHOD



DIAGNOSTIC SENSITIVITY AND SPECIFICITY

500 genital swabs tested by culturing (AFNOR U47-108) and by PCR with the direct lysis method at LABÉO Frank Duncombe

	Se	*Sp*
K. pneumoniae	100%	93%
P. aeruginosa	100%	99%
T. equigenitalis	Not determined*	100%
T. asinigenitalis	Not determined*	100%

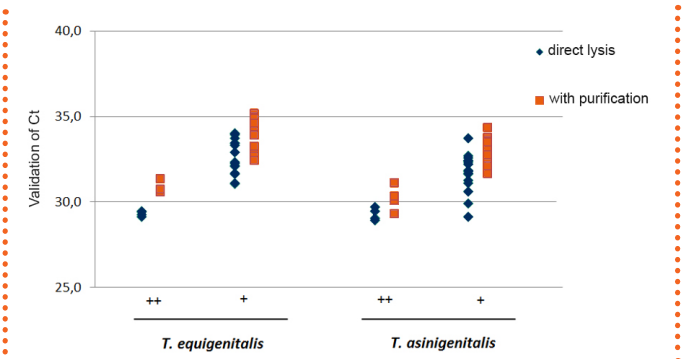
* No *T. equigenitalis*- and *T. asinigenitalis*-positive samples in the entire study.

VALIDATIONS

> Validation of *Taylorella* real-time PCR on genital swabs

Negative genital swabs doped with *T. equigenitalis* or *T. asinigenitalis* strains

Blind assessments at Adiagène and LABÉO Frank Duncombe



- 100% of positives detected
- No false positives
- Direct lysis and purification methods give equivalent results
- Good repeatability and reproducibility (CV < 3%)

> Validation of two real-time PCR kits on qualified samples

PCR testing of 9 samples from an inter-laboratory culture trial (Horserace Betting Levy Board)

Culture	ADIAVET™ CEMO TAYLORELLA REAL TIME		ADIAVET™ CEMO KLEB/PSEUDO REAL TIME	
	T. equigenitalis	*T. asinigenitalis*	*K. pneumoniae*	*P. aeruginosa*
#1 *P. aeruginosa*	-	-	-	+ (Ct = 26,5)
#2 *T. equigenitalis (streptomycin resistant)*	+ (Ct = 19,5)	-	-	-
#3 *T. equigenitalis (streptomycin sensitive) + S. aureus*	+ (Ct = 19,9)	-	-	-
#4 *S. aureus*	-	-	-	-
#5 *S. aureus*	-	-	-	-
#6 *K. pneumoniae (Type 2) + E. coli*	-	-	+ (Ct = 21)	-
#7 *T. equigenitalis (streptomycin sensitive)*	+ (Ct = 18,4)	-	-	-
#8 *T. equigenitalis (streptomycin resistant) + E. coli*	+ (Ct = 19,9)	-	-	-
#9 *E. coli*	-	-	-	-

PERFECT CORRELATION BETWEEN CULTURE AND PCR RESULTS

Bio-X Diagnostics is ISO 9001:2008 certified to assure the best to its customers

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