

# BactoReal<sup>®</sup> Kit *Pasteurella multocida* toxA



For veterinary use only

## BactoReal<sup>®</sup> Kit *Pasteurella multocida* toxA

Order no.	Reactions	Pathogen	Internal positive control
DVEB00913	100	FAM channel	Cy5 channel
DVEB00953	50	FAM channel	Cy5 channel
DVEB00911	100	FAM channel	VIC/HEX channel
DVEB00951	50	FAM channel	VIC/HEX channel

### Kit contents:

- Detection assay for toxigenic *Pasteurella multocida*
- Detection assay for internal positive control (control of amplification)
- DNA reaction mix (contains uracil-N glycosylase, UNG)
- Positive control for toxigenic *P. multocida*
- Water



**Background:** *Pasteurella multocida* is a Gram-negative bacterium and part of the flora in the respiratory tract of pigs. The bacterium induces hemorrhagic septicemia or, usually as a secondary pathogen invading lungs injured by other bacteria or viruses, pneumonia. A subset of *P. multocida* isolates are critical agents in an upper respiratory disease, progressive atrophic rhinitis (PAR). *Pasteurella multocida* strains associated with PAR usually produce a dermonecrotic toxin, which is encoded by the *toxA* gene. The *toxA* protein of these isolates acts as an essential virulence factor inducing turbinate atrophy and poor weight gains in pigs. Non-toxigenic *P. multocida* strains are not usually associated with PAR. Therefore, confirmation of toxin production is important for the diagnosis and control of the disease.

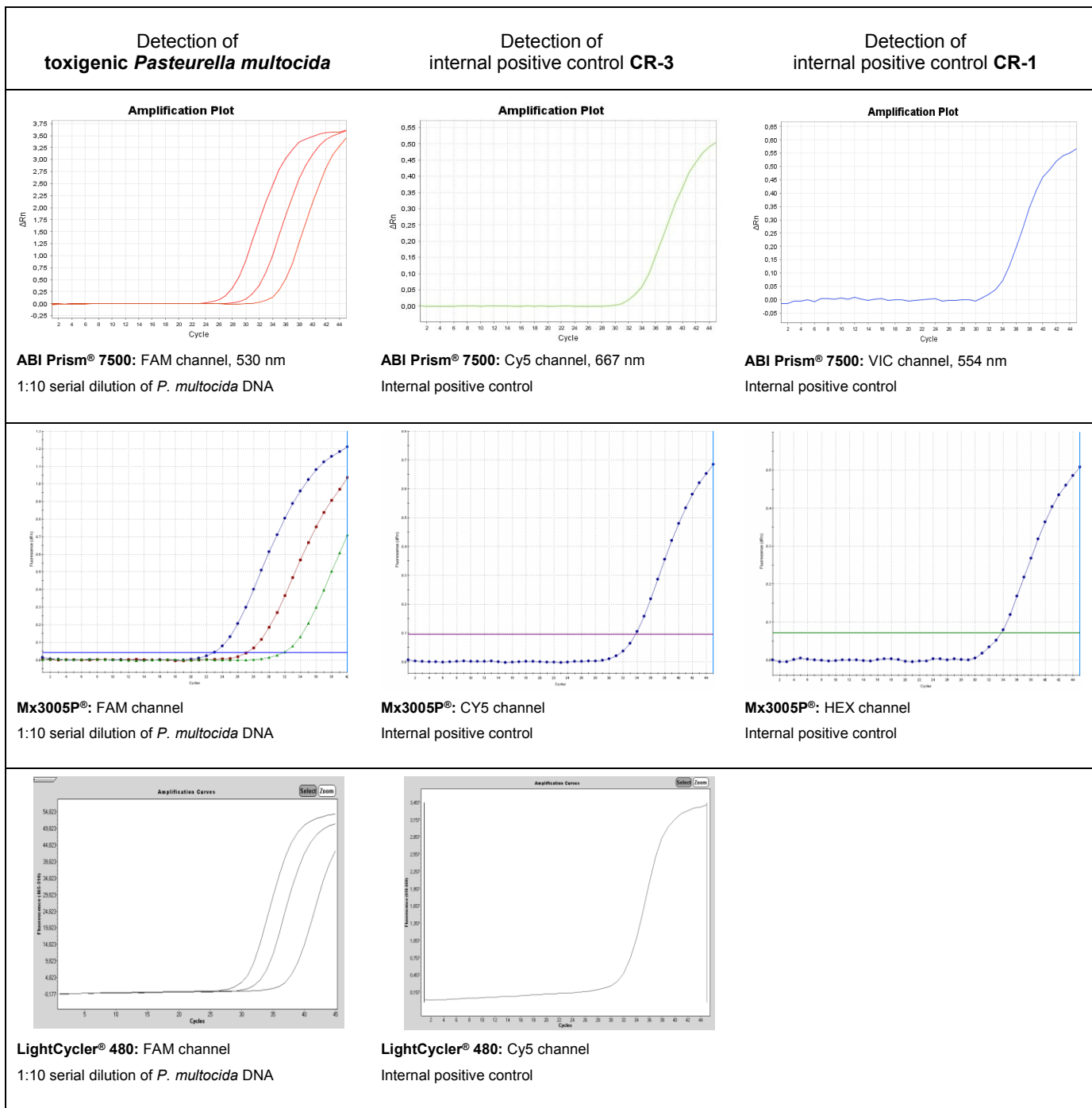
**Description:** BactoReal<sup>®</sup> Kit *Pasteurella multocida* toxA is based on the amplification and detection of the *toxA* gene of *P. multocida* using real-time PCR. It allows the rapid and sensitive detection of the *toxA* gene of *P. multocida* from DNA samples purified from swabs (e.g. with the QIAamp DNA Mini Kit).

**PCR-platforms:** BactoReal<sup>®</sup> Kit *Pasteurella multocida* toxA is developed and validated for the ABI PRISM<sup>®</sup> 7500 instrument (Life Technologies), LightCycler<sup>®</sup> 480 (Roche) and Mx3005P<sup>®</sup> QPCR System (Agilent), but is also suitable for other real-time PCR instruments.

**Sensitivity and specificity:** BactoReal<sup>®</sup> Kit *Pasteurella multocida* toxA detects at least 40 copies/PCR. The limit of detection (LoD<sub>95</sub> = smallest number of copies of target DNA which can be detected in 95% of cases) is 60 target copies/reaction and was determined by several replicates around the detection limit. Specificity was tested on isolates of *H. arophilus*, *H. parainfluenzae*, *H. parasuis*, *L. monocytogenes*, *M. hyorhinis* and 3 different *Pasteurella* spp. strains. No cross reactions were observed. Furthermore, 31 *Pasteurella* isolates, including 19 isolates of toxigenic *Pasteurella* and 12 isolates of non-toxigenic *Pasteurella multocida* lacking the *tox A* gene ("non *toxA*") were correctly analysed.

**References:** Davies RL, MacCorquodale R, Baillie S, Caffrey B. 2003. Characterization and comparison of *Pasteurella multocida* strains associated with porcine pneumonia and atrophic rhinitis. J. Med. Microbiol. 52(Pt 1):59-67.

For detection of non-toxigenic *P. multocida* strains ingenetix offers BactoReal<sup>®</sup> Kit *Pasteurella multocida*.



**BactoReal®, MycoReal, ParoReal and ViroReal® Kits run with the same thermal cycling conditions. RNA and DNA material can be analysed in one PCR run.**

For further information on our products please visit our homepage ([www.ingenetix.com](http://www.ingenetix.com))