

BactoReal[®] Kit *Bordetella pertussis*



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Order no.	Reactions	Pathogen	Internal positive control
DHUB00353	50	FAM channel	Cy5 channel

For Research Use Only. Not for use in diagnostic procedures.

Kit contents:

- Detection assay for *Bordetella pertussis*
- Detection assay + target for internal DNA positive control (control of PCR amplification and DNA extraction)
- DNA reaction mix
- Nuclease-free water
- Positive control for *Bordetella pertussis*



Background: *Bordetella pertussis* is a Gram-negative bacterium of the genus *Bordetella* and the etiologic agent of whooping cough, an acute respiratory disease. Transmission occurs through close contact with contaminated respiratory droplets. A pertussis-like respiratory disease, but with a milder clinical course may be caused by *B. parapertussis*, *B. holmesii* and *B. bronchiseptica*. While *B. pertussis* and *B. parapertussis* are exclusively human pathogens, *B. bronchiseptica* most often infects animals, but is infrequently isolated also from humans. A frequently used target for PCR detection of *B. pertussis* is the insertion sequence IS481, which is absent in *B. parapertussis*, but found in *B. pertussis* and *B. holmesii* as well as in some strains of *B. bronchiseptica*.

Description: BactoReal[®] Kit *Bordetella pertussis* is a real-time PCR test detecting DNA of the insertion sequence IS481 of *B. pertussis*. It allows the rapid and sensitive detection of *B. pertussis* from DNA samples purified from nasopharyngeal swabs (e.g. with the QIAamp DNA Mini Kit). *B. pertussis* DNA is detected in FAM channel. The internal DNA positive control (DNA IPC) is detected in Cy5 channel and is used as DNA extraction as well as PCR inhibition control. The DNA IPC target is extracted with the sample.

BactoReal[®] Kit *Bordetella pertussis* was designed to detect also *B. holmesii* and some strains of *B. bronchiseptica*. An additional analysis with BactoReal[®] Kit *Bordetella parapertussis* (ingenetix order no. DHUB00253) can largely differ between an infection with *B. pertussis* or *B. holmesii* / *B. bronchiseptica*.

Detection of	PCR result with	
	BactoReal [®] Kit <i>Bordetella pertussis</i> (PCR target: IS481)	BactoReal [®] Kit <i>Bordetella parapertussis</i> (PCR target: IS1001)
<i>B. pertussis</i>	Positive	Negative
<i>B. parapertussis</i>	Negative	Positive
<i>B. holmesii</i> or <i>B. bronchiseptica</i>	Positive	Positive

PCR-platforms: This kit has been validated with Applied Biosystems[®] 7500 Fast Real-time PCR System (Thermo Fisher Scientific) and tested with LightCycler[®] 480 Instrument II (Roche) and Mx3005P[®] QPCR System (Agilent). It is compatible with real-time PCR instruments detecting and differentiating fluorescence in FAM and Cy5 channel.

Specificity and sensitivity: BactoReal[®] Kit *Bordetella pertussis* has a LoD 95% (defined as the concentration, where 95% of 20 PCR repeats were positive) of 0.5 fg *B. pertussis* DNA/PCR (equal to 0.1 CFU). Specificity was tested on isolates of *B. holmesii*, *B. bronchiseptica*, *B. parapertussis*, *B. pertussis*, *C. pneumoniae*, *E. coli*, *H. influenzae*, *L. monocytogenes*, *L. pneumophila*, *M. pneumoniae*, *N. meningitidis*, *S. agalactiae* and *S. pneumoniae*. It showed a positive result with *B. holmesii* and *B. pertussis*; with the other isolates no reactivity was observed

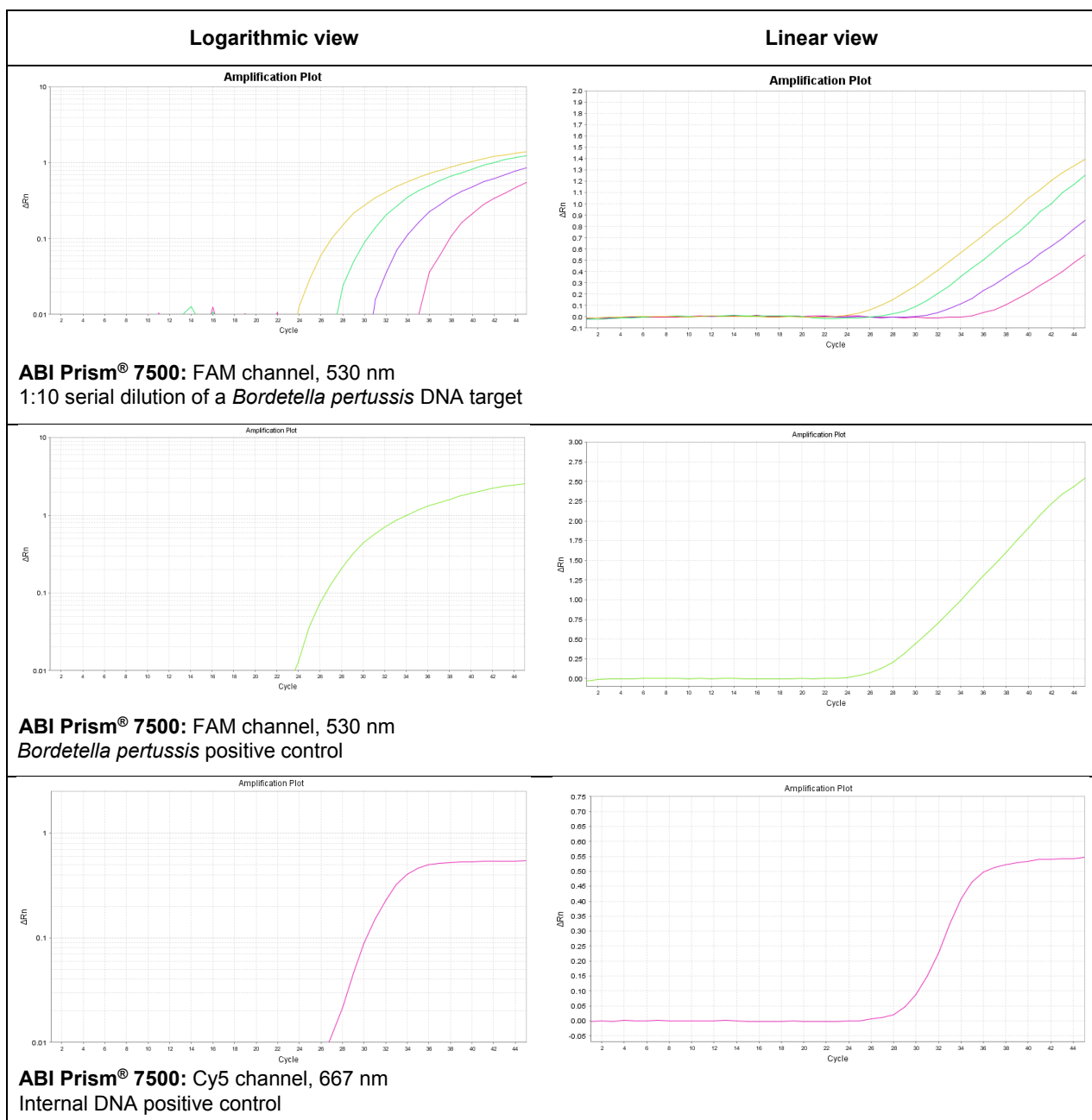


Figure 1 Performance of BactoReal® Kit *Bordetella pertussis*

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