VIASURE *MULTIPLEX*

Bordetella Real Time PCR Detection Kit

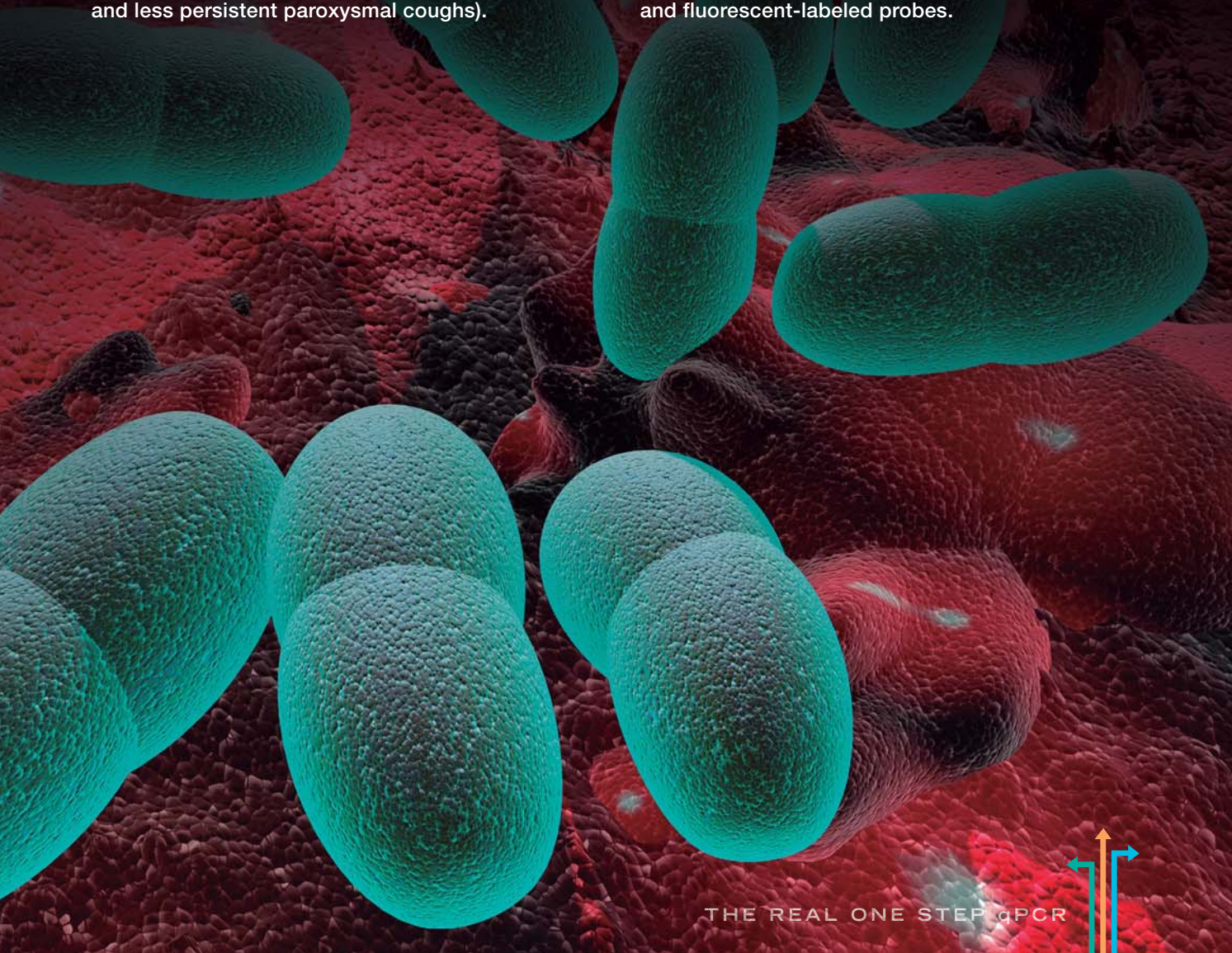
Pathogen and product description

The genus *Bordetella* is comprised of 8 species, 4 of which are known to infect humans; *B. pertussis, B. parapertussis, B. holmesii,* and *B. bronchiseptica.* The most important cause for whooping cough (pertussis) is *B. pertussis*, followed by *B. parapertussis. Bordetella holmesii* has been isolated from patients with a serious underlying disease, whereas *B. bronchiseptica* is usually restricted to animals but occasionally has also been isolated from immunocompromised patients.

Pertussis is a very contagious disease which spreads from person to person usually by coughing or sneezing or when spending a lot of time near one another where you share breathing space. The clinical course of the illness is divided into three stages which include the following clinical features: catarrhal (coryza, low-grade fever, mild and occasional cough), paroxysmal (paroxysms of numerous and rapid coughs, cyanosis, vomiting and exhaustion) and convalescent (gradual recovery and less persistent paroxysmal coughs).

Despite vaccination pertussis remains endemic in most areas of the world. Reliable diagnosis is required to start appropriate treatment and prophylaxis of contacts if needed, particularly non vaccinated infants in whom pertussis might present as a life-threatening disease. Nucleic acid amplification tests, including PCR and more recently real-time PCR, overcome some of the limitations of culture and serological methods for the diagnosis of *Bordetella* infections.

VIASURE *Bordetella* Real Time PCR Detection Kit is designed for the diagnosis of *Bordetella pertussis, Bordetella parapertussis* and/or *Bordetella holmesii* in respiratory samples. After DNA isolation, the identification of *Bordetella pertussis/Bordetella holmesii* is performed by the amplification of a conserved region of the insertion sequence IS481, *Bordetella holmesii* of the insertion sequence hIS1001 and *Bordetella parapertussis* of the insertion sequence pIS1001 using specific primers and fluorescent-labeled probes.



Bordetella
Real Time PCR Detection Kit

VIASURE MULTIPLEX

Analytical sensitivity

VIASURE *Bordetella* Real Time PCR Detection Kit has a detection limit of ≥ 10 DNA copies per reaction for *Bordetella pertussis*, *Bordetella parapertussis* and *Bordetella holmesii* (Figures 1, 2 and 3).

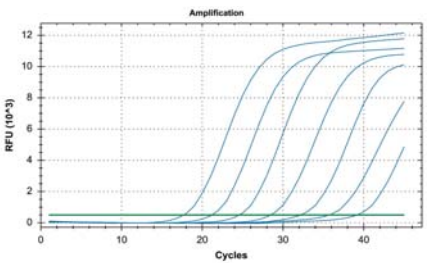


Figure 1. Dilution series of Bordetella pertussis/holmesii (10^7–10^1 copies/rxn) template run on the Bio-Rad CFX96 Touch™ Real-Time PCR Detection System (FAM channel).

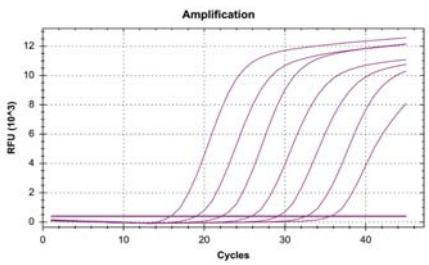


Figure 2. Dilution series of Bordetella holmesii (10^7–10^1 copies/rxn) template run on the Bio-Rad CFX96 Touch™ Real-Time PCR Detection System (ROX channel).

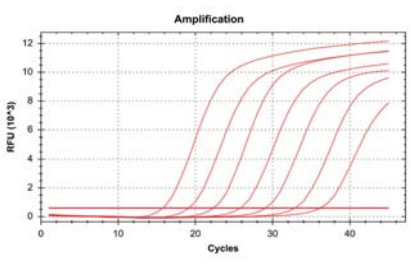


Figure 3. Dilution series of Bordetella parapertussis (10^7–10^1 copies/rxn) template run on the Bio-Rad CFX96 Touch™ Real-Time PCR Detection System (Cy5 channel).

Components

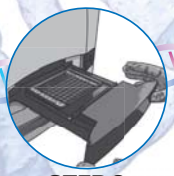
Reagent/Material	Description	Quantity
Bordetella 8-well strips	A mix of enzymes, primers-probes, buffer, dNTPs, stabilizers and Internal control in stabilized format	6/12 x 8-well strip
Bordetella 96-well plate	A mix of enzymes, primers-probes, buffer, dNTPs, stabilizers and Internal control in stabilized format	1 plate
Rehydration Buffer	Solution to reconstitute the stabilized product	1 vial x 1,8 mL
Bordetella Positive Control	Non-infectious synthetic lyophilized cDNA	1 vial
Negative Control	Non template control	1 vial x 1 mL
Water RNAse/DNAse free	Water RNAse/DNAse free	1 vial x 1 mL
Tear-off 8-cap strips	Optical caps for sealing wells during thermal cycling	6/12 x 8-cap strip
Shell Frame Grid	Shell Frame Grid	1 or 2

Work Flow

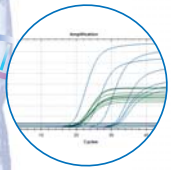
One-step rehydration of wells and add your extracted DNA

STEP 1
Add 15 µl of rehydration buffer into each well

STEP 2
Add 5 µl of DNA sample / positive control / negative control



STEP 3
Load the strips into the thermocycler and run the specified protocol



STEP 4
Interpretate results

Kit References

Reference	Description
VS-BDT106L	Viasure *Bordetella* Real Time PCR Detection Kit 6 x 8-well strips, low profile
VS-BDT106H	Viasure *Bordetella* Real Time PCR Detection Kit 6 x 8-well strips, high profile
VS-BDT112L	Viasure *Bordetella* Real Time PCR Detection Kit 12 x 8-well strips, low profile
VS-BDT112H	Viasure *Bordetella* Real Time PCR Detection Kit 12 x 8-well strips, high profile
VS-BDT113L	Viasure *Bordetella* Real Time PCR Detection Kit 96-well plate, low profile
VS-BDT113H	Viasure *Bordetella* Real Time PCR Detection Kit 96-well plate, high profile

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