

# Bordetella pertussis/parapertussis Qualitative Real-time PCR



*Bordetella pertussis* is a gram-negative coccobacillus that causes whooping cough. It occurs worldwide with a high incidence in unvaccinated infants and recently surfaced even in highly vaccinated populations. Symptoms are characterized by violent coughing followed by a high-pitched inspiratory inhalation, or whoop. In non-immunized populations, especially those with malnutrition and a prevalence of other respiratory disease, pertussis is among the most lethal diseases of infants and young children. Pneumonia is the most common cause of death. The illness caused by *B. parapertussis* is usually milder than that caused by *B. pertussis*, although severe cases have been reported. Following the increase of pertussis vaccination coverage, a relative increase of *B. parapertussis* cases have been observed in clinical practice. In vaccinated children, *B. pertussis* disease frequently presents as a mild disease, clinically difficult to distinguish from diseases associated with coughing caused by *B. parapertussis* and other bacterial or viral infections. Real-time PCR provides a rapid and sensitive method to determine the presence of target-specific amplifiable nucleic acids in all samples intended for PCR<sup>1,2</sup>. This assay detects both species and distinguishes between them; results include both species. For more information, call the lab at 513-636-9820.

## Reporting Units:

Positive/Negative

## Unacceptable Specimens:

- Frozen whole blood
- Swabs in gel or charcoal media

## Shipping Conditions:

- Ambient if sent within 24 hours
- On wet ice if sent >24 hours after collection

## Testing Schedule:

Testing for *B. pertussis/parapertussis* is performed every day on first shift. For testing outside of this schedule, call the lab at 513-636-9820. **TAT:** 1-2 days

## CPT Codes:

87798 x2

## Contact Information:

Cincinnati Children's Division of Pathology  
Molecular and Genomic Pathology Services

Phone: 513-636-9820

Fax: 513-803-2941

Email: [pathology@cchmc.org](mailto:pathology@cchmc.org)

Website: [cincinnatichildrens.org/pathology](http://cincinnatichildrens.org/pathology)

For pricing or billing questions, call 513-636-9264.

## Shipping Address:

Cincinnati Children's Hospital Medical Center  
Lab Processing, B4.127

Attn: Molecular and Genomic Pathology Services (MGPS)

3333 Burnet Ave.

Cincinnati, OH 45229

## References:

1. Zuckerman A, Banatvala J, Pattison J, eds. Principles and Practice of Clinical Virology. 2<sup>nd</sup> ed. John Wiley and Sons, West Sussex, United Kingdom. 1990.
2. Salamon D, Cummins C, Jones R, et al. Use of multiple in-house and commercial PCR assays for ongoing validation of PCR detection of *B. pertussis* and *B. parapertussis* infection. Unpublished data. Columbus Children's Hospital, Department of Laboratory Medicine, Columbus, Ohio. 2009.

Sample Type	Volume Needed	Collection Container
Aspirate: endotracheal tube, tracheal	1mL	Sterile Container
Bronchoalveolar Lavage (BAL) fluid	1mL	Sterile Container
Body Fluids (i.e. pericardial, pleural)*	1mL	Sterile Container
Swab** : nasal, nasopharyngeal, throat	n/a	Red or Green Culturette Swab
Tissue (lung)***	0.3 g	Sterile Container

\* Not preferred specimen types for analyzing respiratory agents.

\*\* Red or green top culturette swabs preferred; viral transport media acceptable.

\*\*\* Wrap tissue in gauze wetted slightly with sterile saline to keep moist during transport.

Clinical Lab Index:

Pert: <https://www.testmenu.com/cincinnatichildrens/Tests/662803>