

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 PCR¹⁻². 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 cold packs 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 (MGPS)

Phone: 513-636-9820

Fax: 513-517-7099

Email: pathology@cchmc.org

Website: cincinnatichildrens.org/pathology

For pricing or billing questions, call 513-636-4261.

Shipping Address:

Cincinnati Children's Hospital Medical Center
Attn: Molecular and Genomic Pathology Services (MGPS)
240 Albert Sabin Way, R2.001
Cincinnati, OH 45229

References:

1. Zuckerman A, Banatvala J, Pattison J, eds. Principles and Practice of Clinical Virology. 2nd 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>