

Bordetella pertussis Antibodies, IgA, IgG & IgM

Disease Overview

- *Bordetella pertussis* is a fastidious gram-negative pleomorphic bacillus.
- Infection of the tracheobronchial epithelium produces pertussis (whooping cough), a prolonged disease marked by paroxysmal coughing.

Epidemiology

- Transmission of pertussis occurs through airborne spread of respiratory secretions.
- Pertussis is highly infectious, and spread of disease is often not recognized due to the mildness of symptoms in immunized persons.

Indications for Ordering

Suspected *Bordetella pertussis* infection.

Interpretation

- An IgG result less than 0.9 BU/mL is considered negative; a result between 1.0 and 2.4 BU/mL is equivocal; and a result of 2.5 or higher is considered positive.
- Detectable levels of IgG antibodies may be seen in the serum of vaccinated individuals of all ages, in early infancy as a result of placental transfer, and in the convalescent phase of a recent infection.

- An IgA or IgM result of less than 0.9 BU/mL is considered negative; a result between 1.0 and 1.1 is equivocal; a result of 1.2 or higher is considered positive.
- A positive IgA result is seen only in natural infection, not in vaccinated individuals.
- Repeat testing in 10–14 days may be helpful when initial results are equivocal.

Limitations

- This test has been validated for serum samples only; no other sample types may be used.
- Antibody testing has limited utility in patients who are HIV positive or otherwise immunocompromised.

Methodology

ELISA using pertussis toxin (PT) and filamentous hemagglutinin (FHA) as antigens.

References

1. Robertson PW, et al. Bordetella pertussis infection: a cause of persistent cough in adults. *Med J Aust* 1987;146:522–5.
2. Mertsola J, et al. Serologic diagnosis of pertussis: comparison of enzyme-linked immunosorbent assay and bacterial agglutination. *J Infect Dis* 1983;47:252–7.
3. CDC-NIH Manual. *Biosafety in Microbiological and Biomedical Laboratories*, 3rd Ed. U.S. Department of Health and Human Services, Public Health Service, 1993.
4. *Bordetella pertussis* IgG, IgA, and IgM ELISA Test. Package insert, Savyon Diagnostics Ltd, 2007.

Test Information

2001769	<i>Bordetella pertussis</i> Antibody, IgG
2001774	<i>Bordetella pertussis</i> Antibodies, IgA & IgG
2001775	<i>Bordetella pertussis</i> Antibodies, IgA, IgG, & IgM
2001784	<i>Bordetella pertussis</i> Antibodies, IgG & IgM

For specific collection, transport, and testing information, refer to the ARUP Web site at www.aruplab.com.

For information on test selection, ordering, and interpretation, refer to ARUP Consult[®] at www.arupconsult.com.