

CLINICAL SPECIFICATIONS

CHLAMYDIAS

Pathogen Type:

Chlamydias are obligate intracellular pathogens. Array 12 assesses immune reactivity to *Chlamydia pneumoniae* and *Chlamydia trachomatis*.

Associated With:

Coronary heart disease^{reviewed in 1}
 Cerebrovascular disease^{reviewed in 1}
 Cardiovascular disease²
 Reactive arthritis (Reiter syndrome)³
 Pelvic inflammatory disease³
 Infertility³
 Fitz-Hugh-Curtis syndrome³

Known Cross-Reactions: *C. pneumoniae* with *C. psittaci*,⁴ *C. pneumoniae* with abdominal aortic tissue,⁵ myelin basic protein⁶

Clinical Significance:

The detection of antibodies to Chlamydias indicates the patient has increased risk of neuroautoimmunities, systemic inflammation, autoimmune cardiovascular disorders, pelvic inflammatory disease, infertility, or Fitz-Hugh-Curtis syndrome. *C. pneumoniae* causes approximately 10% of community-acquired pneumonia and 5% of pharyngitis, bronchitis, and sinusitis.⁷ Subacute onset and pharyngitis are common with unresolved cough and/or malaise as the only clinical conditions.¹ *C. pneumoniae* invasion has been implicated in atherosclerosis and related clinical manifestations including coronary heart disease, carotid artery stenosis, aortic aneurysm, claudication and even stroke.¹ *C. trachomatis* infects the columnar epithelium of the cervix, urethra, and rectum, as well as non-genital sites.³ Women who have subacute *C. trachomatis* may encounter pelvic pain and ectopic pregnancy, and are at increased risk for developing pelvic inflammatory disease, infertility, or Fitz-Hugh-Curtis syndrome.³ In men, *C. trachomatis* may cause epididymo-orchitis, resulting in infertility.⁸

This array tests for IgG immune reactivity associated with Chlamydias. This is not a measurement of acute infection. Equivocal or out-of-range results indicate IgG antibody reactivity to the tested antigen. We tested 288 blood donor sera against *Chlamydia* antigens at optimal dilution, 14% of these donors were IgG reactive.

References:

1. Campbell, et al. *Chlamydia pneumoniae* and cardiovascular disease. *Emerging Infect Dis*, 1998; 4(4):571-579.
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3. Mishori, et al. *Chlamydia trachomatis* infections: screening, diagnosis, and management. *Am Fam Physician*, 2012; 86(12):1127-1132.
4. Ozanne and Lefebvre. Specificity of the microimmunofluorescence assay for the serodiagnosis of *Chlamydia pneumoniae* infections. *Canadian J Microbiol*, 1991; 38(11):1185-1189.
5. Lindholt, et al. Serum antibodies against *Chlamydia pneumoniae* outer membrane protein cross-react with the heavy chain of immunoglobulin in the wall of abdominal aortic aneurysms. *Circulation*, 2004; 109:2097-2102.
6. Wucherpfennig and Strominger. Molecular mimicry in T cell-mediated autoimmunity: viral peptides activate human T cell clones specific for myelin basic protein. *Cell*, 1995; 80(5):695-705.
7. Kuo, et al. *Chlamydia pneumoniae*. *Clin Microbiol Rev*, 1995; 8:451-461.
8. Brunham. *Chlamydia trachomatis*: its role in tubal infertility. *J Infect Dis*, 1985; 152(6):1275-1282.