

CLINICAL SPECIFICATIONS

MYCOBACTERIUM AVIUM

Pathogen Type:

Mycobacterium avium (*M. avium*) is a saprotrophic organism present in soil and water.

Associated With:

Chronic enteritis¹
 Crohn's disease²
 Ulcerative colitis²
 Pulmonary MAC disease³
 Nodular bronchiectatic disease (Lady Windermere syndrome)⁴
 Progressive thymic atrophy⁵
 Type 1 diabetes⁶
 Multiple sclerosis⁷
 Sarcoidosis⁸

Known Cross-Reactions: Myelin basic protein;⁹ human gastrointestinal glutathione peroxidase, human glypican;¹⁰ human B-cell¹¹

Clinical Significance:

The detection of antibodies to *M. avium* indicates the patient has increased risk of gastrointestinal disorders, thyroid autoimmunity, type 1 diabetes, arthritis and multiple sclerosis. Whether inhaled or ingested, *M. avium* is taken up primarily into macrophages, where they can reside, undetected by the immune system, for many years in a latent stage.¹ A physical stressor can release the *M. avium* and clinical manifestations can emerge.¹ *M. avium* can grow on tap water pipes,¹² and plastic water bottles.¹³ *M. avium* has been found in the drinking water of the United States,¹⁴ as high as 700,000 or 7×10^5 organisms per liter of water. By drinking two liters of water per day, after a little over two months, an individual could have ingested pathogenic levels of microorganisms. Chronic enteric inflammation can alter the structure of the enteric nervous system in the intestinal wall.¹ Systemically, *M. avium* has been shown to progressively infect the thymus.⁵ Pierce² concluded that *M. avium* antigens are the cause of Crohn's disease and ulcerative colitis in addition to other autoimmune diseases such as type-1 diabetes, thyroiditis, rheumatoid arthritis and sarcoidosis.

This array tests for IgG immune reactivity associated with *Mycobacterium avium*. 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 *Mycobacterium avium* antigens at optimal dilution, 9% of these donors were IgG reactive.

References:

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