

CLINICAL SPECIFICATIONS

CYTOMEGALOVIRUS

Pathogen Type:

Cytomegalovirus (CMV) is an opportunistic herpesvirus belonging to the *Betaherpesvirinae* subfamily.

Associated With:

Myocarditis¹
 Systemic lupus erythematosus²
 Systemic sclerosis³
 Autoimmune diabetes⁴

Known Cross-Reactions: Myosin,⁵ myelin oligodendrocyte glycoprotein,⁶ topoisomerase,³ glutamic acid decarboxylase^{7,12}

Clinical Significance:

The detection of antibodies to Cytomegalovirus indicates the patient has increased risk of type 1 diabetes, arthritis, lupus and neurological disorders. CMV establishes a lifelong latent infection following primary infection and, in some hosts, can periodically reactivate with shedding of infectious virus.⁸ The rate of transmission to infants born to mothers who had a primary infection or a recurrent infection during pregnancy was 32% and 1.4%, respectively.⁹ Babies born to infected mothers can have birth defects causing deafness and mental retardation.¹⁰ Unfortunately, CMV titers are relatively common among women of reproductive age, with seroprevalence ranging from 45 to 100%.⁸ After primary infection, CMV can infect a variety of cell types such as epithelial cells of salivary glands, large intestine, lungs, smooth muscle, endothelial cells, liver, kidney, fibroblasts, neuronal cells and various myeloid cells. CMV remains latent in myeloid progenitors of CD34+ cells, from which, under certain conditions, such as low natural killer cell activity, reactivation and recurrent replication can emerge.¹¹ Due to its potential for cross-reactivity with heart myosin and nervous system myelin, patients at risk for coronary disorders and/or demyelinating disorders, should be screened and treated for CMV antibodies.

This array tests for IgG immune reactivity associated with Cytomegalovirus. 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 Cytomegalovirus antigens at optimal dilution, 12% of these donors were IgG reactive.

References:

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