

CLINICAL SPECIFICATIONS

CYP450, MIMIC HEPATITIS C PEPTIDE

Pathogen Type:

Hepatitis C virus (HCV) is an enveloped, positive-sense single-stranded RNA virus of the *Flaviviridae* family. Hepatitis C (HepC) or Non-A-, Non-B-Hepatitis, causes infection of the liver that is spread through the blood or body fluids.

Associated With:

Chronic HCV infection^{1,2}
Mixed type II cryoglobulinemia³

Known Cross-Reactions: Influenza A virus;⁴ Cytomegalovirus, CYP2D6, liver kidney microsomal⁵

Clinical Significance:

The detection of antibodies to Hepatitis C-specific peptide, which cross-reacts with liver tissues, indicates the patient has increased risk of liver autoimmunity. **A positive result does not infer the patient has Hepatitis C infection.** After acute infection, in some individuals the virus may persist. HCV uses molecular mimicry to evade immune deletion.⁶ IgG antibodies will ensue, however, at this time, researchers have not been able to elucidate how to determine if these IgG antibodies have protective effects or are pathogenic leading to chronic HCV infection.^{2,7} Chronic HCV infection is known to induce autoimmune reactions and can be associated with extrahepatic manifestations such as mixed cryoglobulinemia, membranoproliferative glomerulonephritis, polyarthritis, porphyria cutanea tarda, Sjögren's Syndrome and autoimmune thyroid disorders.^{reviewed in 8} The current suggestion is to monitor antibody levels for fluctuations which would indicate pathogenic immunoglobulins.²

This array tests for IgG immune reactivity associated with Hepatitis C virus. 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 Hepatitis C virus antigens at optimal dilution, 10% of these donors were IgG reactive.

References:

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4. Wedemeyer, et al. Cross-reactivity between Hepatitis C virus and influenza A virus determinant-specific cytotoxic T cells. *J Virol*, 2001; 75(23):11392-11400.
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7. Ball, et al. The past, present and future of neutralizing antibodies for hepatitis C virus. *Antiviral Res*, 2014; 105:100-111.
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