

Hepatitis B Screening

Table 1. Common Hepatitis B Serology Markers

Marker	Definition	Note
HBsAg	Hepatitis B surface antigen	<ul style="list-style-type: none"> General marker of Hepatitis B infection Usually disappears in 4 to 6 months after infection Persistence for more than 6 months suggests chronic hepatitis B infection
Anti-HBc <ul style="list-style-type: none"> IgM anti-HBc IgG anti-HBc 	Hep B core antibody	<ul style="list-style-type: none"> Confirmed prior exposure to HBV (resolved or acute/chronic infection) IgM anti-HBc : Acute Hepatitis B infection (usually disappear within 6 months) IgG anti-HBc: Resolved or chronic Hepatitis B infection
Anti-HBs	Hepatitis B surface antibody	<ul style="list-style-type: none"> Immunity to Hepatitis B from resolved infection or from vaccination

Table 2. Interpretation of Hepatitis B Serology Test Results

Tests	Results	Interpretation	At Risk For Reactivation
HBsAg	–	Susceptible to future hepatitis infection	No
Anti-HBc	–		
Anti-HBs	–		
HBsAg	–	Immune due to natural infection	Yes
Anti-HBc	+		
Anti-HBs	+		
HBsAg	–	Immune due to hepatitis B vaccination	No
Anti-HBc	–		
Anti-HBs	+		
HBsAg	+	Acutely infected	Yes
Anti-HBc	+		
IgM anti-HBc	+		
Anti-HBs	–		
HBsAg	+	Chronically infected	Yes
Anti-HBc	+		
IgM anti-HBc	–		
Anti-HBs	–		
HBsAg	–	Four Possible Interpretations: 1. Resolved infection ^a (most common) 2. False positive anti-HBc, thus susceptible 3. 'Low level' chronic infection ^b 4. Resolving acute infection ^c	Yes
Anti-HBc	+		
Anti-HBs	–		

Table 1 and 2 are adapted from the [January 2012 Systemic Therapy Update](#).¹

- ^a After many years of acute hepatitis B recovery, anti HBs may fall to undetectable levels
- ^b After many years of chronic hepatitis B infection, HBsAg may fall to undetectable levels
- ^c May occur in patients with fulminant hepatitis B where virus clearance tends to be more rapid. During this window, HBsAg may disappear while anti-HBs is still not detected. The sole marker that indicates acute hepatitis B infection is the presence of IgM-anti HBc.

Reference

1. Oetomo E, Ferrier L. Hepatitis B Screening and Prophylaxis In Cancer Patients. Systemic Therapy Update Newsletter. 2012;15(1):7. Available from:
<http://www.bccancer.bc.ca/HPI/stupdate.htm>