



Hepatitis B

Hepatitis B Testing

Separate laboratory tests can diagnose hepatitis B virus (HBV) infection and monitor people with chronic hepatitis B.

Hepatitis B is first diagnosed using a blood test that looks for certain antigens (fragments of HBV) and antibodies (produced by the immune system in response to HBV). The test is called a hepatitis B blood panel, and it checks for the following:

- HBsAg (the hepatitis B surface antigen)
- anti-HBs (antibodies to the HBV surface antigen)
- anti-HBc (antibodies to the HBV core antigen)

Two types of anti-HBc antibodies are produced: immunoglobulin M (IgM) antibodies and IgG antibodies. IgM antibodies are produced early in the course of infection. IgG antibodies are produced later in the course of infection and replace IgM antibodies.

The blood test used to check for HBV infection can be quite confusing, given that a number of different combinations of antigens and antibodies are possible and can mean different things.

Here's a look at the most important test results to know and what they indicate about your hepatitis B status.

HBsAg	ANTI-HBc (TOTAL)	ANTI-HBc (IgM)	ANTI-HBs	HEPATITIS B STATUS
Negative	Negative	Negative	Negative	Never infected with the virus. (Consider getting the vaccine).
Positive	Positive	Positive	Positive	Acute infection. Infection likely took place over the last six months and is still active. Possible explanations: 1. Infection has resolved. 2. Infection likely took place over the past six months and is in the process of clearing. 3. A low-level chronic infection. 4. A false-positive anti-HBc and still susceptible to infection.
Negative	Positive	Positive	Negative	Immune from infection that likely took place more than six months ago and is now resolved.
Negative	Positive	Negative	Positive	

HBsAg	ANTI-HBc (TOTAL)	ANTI-HBc (IgM)	ANTI-HBs	HEPATITIS B STATUS
Negative	Negative	Negative	Positive	Immune due to successful HBV vaccination.
Positive	Positive	Negative	Negative	Chronic HBV infection.

HBsAg: **Negative**

ANTI-HBc (TOTAL) Negative

ANTI-HBc (IgM) Negative

ANTI-HBs Negative

HEPATITIS B STATUS Never infected with the virus. (Consider getting the vaccine).

HBsAg: **Positive**

ANTI-HBc (TOTAL) Positive

ANTI-HBc (IgM) Positive

ANTI-HBs Positive

HEPATITIS B STATUS Acute infection. Infection likely took place over the last six months and is still active.

HBsAg: **Negative**

ANTI-HBc (TOTAL) Positive

ANTI-HBc (IgM) Positive

ANTI-HBs Negative

Possible explanations:

1. Infection has resolved.

HEPATITIS B STATUS 2. Infection likely took place over the past six months and is in the process of clearing.

3. A low-level chronic infection.

4. A false-positive anti-HBc and still susceptible to infection.

HBsAg: **Negative**

ANTI-HBc (TOTAL) Positive

ANTI-HBc (IgM) Negative

ANTI-HBs Positive

HEPATITIS B STATUS Immune from infection that likely took place more than six months ago and is now resolved.

HBsAg: **Negative**

ANTI-HBc (TOTAL) Negative

ANTI-HBc (IgM) Negative

ANTI-HBs Positive

HEPATITIS B STATUS Immune due to successful HBV vaccination.

HBsAg: **Positive**

ANTI-HBc (TOTAL) Positive

ANTI-HBc (IgM) Negative

HBsAg: **Positive**
ANTI-HBs
HEPATITIS B STATUS

Negative
Chronic HBV infection.

Depending on these results, additional diagnostic tests may be necessary. Somebody who has never been infected with HBV or has been vaccinated against the virus does not require any additional testing. Someone who was recently infected with HBV and has acute hepatitis B may want to get another blood test after six months have passed to make sure that the necessary immune response has occurred. People with chronic HBV infection require additional testing to learn more about their hepatitis B.

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<http://beta.docker.hepmag.com/basics/liver-health/hepatitis-b-testing>