

Datasheet for ABIN997018

HBcAb-IgM ELISA Kit

[Go to Product page](#)

Overview

Quantity:	96 tests
Target:	HBcAb-IgM
Reactivity:	Hepatitis B Virus (HBV)
Method Type:	Sandwich ELISA
Application:	ELISA

Product Details

Purpose:	The HBcAb IgM ELISA is an enzyme-linked immunosorbent assay for the qualitative identification of IgM class antibodies to hepatitis B core antigen in human serum/plasma.
Sample Type:	Serum
Analytical Method:	Qualitative
Detection Method:	Colorimetric
Specificity:	99.3%
Sensitivity:	98.4%

Target Details

Target:	HBcAb-IgM
Alternative Name:	HbcAb IgM
Target Type:	Antibody, Antibody
Background:	Hepatitis B virus (HBV) is an enveloped, double-stranded DNA virus belonging to the

Hepadnaviridae family and is recognized as the major cause of blood transmitted hepatitis together with hepatitis C virus (HCV). Infection with HBV induces a spectrum of clinical manifestations ranging from mild, inapparent disease to fulminant hepatitis, severe chronic liver diseases, which in some cases can lead to cirrhosis and carcinoma of the liver. Classification of a hepatitis B infection requires the identification of a number of serological markers expressed during three phases (incubation, acute and convalescent) of the infection. Now several diagnostic test are used for screening, clinical diagnosis and management of the disease. Hepatitis B "core " antigen (HBcAg) is a major component of the viral structure.

HBcAg is composed of a single polypeptide of about 17 kD that is released upon disaggregation of the core particles, the antigen contains at least one immunological determinant. Antibodies to HBcAg (anti-HBc total antibody and IgM) appear shortly after the appearance of HBsAg and persist for life both in persons who have recovered from a hepatitis B infection and in those who develop HBsAg-carrier status but in rare cases, an HBV infection can also run its course without the appearance of immunologically detectable anti-HBc (usually in immunosuppressed patients). In chronic hepatitis, however, spikes of anti-HBc IgM synthesis are present, confirming reactivation of HBV in hepatocytes and giving origin to permanent IgM low titers. Presence of IgM and total anti-HBc indicates an ongoing or recent HBV infection. When used in conjunction with tests for other HBV serological markers, a laboratory diagnosis or a rule out of HBV infection can be achieved.

This kit is a two-step incubation, solid phase antibody capture ELISA assay, in which polystyrene microwell strips are pre-coated with antibodies directed to human immunoglobulin M proteins (anti- μ chain). The patient's serum/plasma sample is added and during the first incubation step, any IgM-class antibodies will be captured inside the wells. After washing out all other components of the sample and in particular IgG-class antibodies, the specific anti-HBc IgM captured on the solid phase is detected by the addition of purified HBcAg, labeled with anti-HBc monoclonal antibody conjugated to horseradish peroxidase (HRP-Conjugate). During the second incubation, the HRP-conjugated antigens will specifically react only with anti-HBc IgM antibodies, and after washing to remove the unbound HRP- conjugate, Chromogen solutions are added to the wells. In presence of the (anti- μ chain)-(anti-HBc IgM)-(HBcAg-Ab (HRP)) immunocomplex, the colorless Chromogens are hydrolyzed by the bound HRP-conjugate to a blue-colored product. The blue color turns yellow after stopping the reaction with sulfuric acid. The amount of color intensity can be measured and is proportional to the amount of antibody captured in the wells, and to the sample respectively. Wells containing samples negative for anti-HBc IgM remain colorless.

Application Details

Sample Volume:	100 µL
Assay Time:	1 - 2 h
Plate:	Pre-coated
Restrictions:	For Research Use only

Handling

Storage:	4 °C
Expiry Date:	12-18 months