

# Hep B cAg (13A9): sc-23946

## BACKGROUND

Hep B (hepatitis B) virus is a member of a member of the Hepadnavirus family that causes an inflammation of the liver, vomiting, jaundice and sometimes, death. Hep B is one of the small number of known non-retroviral viruses that replicate their genome using reverse transcription. Three major antigens make up different parts of the Hep B Virus (HBV). These three include: surface antigen (Hep B sAg), an envelope glycoprotein found as membranous aggregates in the sera of individuals infected with HBV; and e-antigen (Hep B eAg), which is typically associated with much higher rates of viral replication; and core antigen (Hep B cAg), which encloses the viral genome and makes up the assembled and unassembled variants of the capsid protein. Hep B cAg and Hep B eAg are used primarily in HBV diagnosis, whereas Hep B sAg is used for HBV prevention in vaccines. Hep B viral antigens are primarily expressed in liver.

## REFERENCES

1. Bichko, V., et al. 1993. Epitopes recognized by antibodies to denatured core protein of hepatitis B virus. *Mol. Immunol.* 30: 221-231.
2. Skrivelis, V., et al. 1993. The structure of the variable regions of mouse monoclonal antibodies to hepatitis B virus core antigen. *Scand. J. Immunol.* 37: 637-643.
3. Pushko, P., et al. 1994. Identification of hepatitis B virus core protein regions exposed or internalized at the surface of HBcAg particles by scanning with monoclonal antibodies. *Virology* 202: 912-920.
4. Naoumov, N.V., et al. 1997. Differentiation of core gene products of the hepatitis B virus in infected liver tissue using monoclonal antibodies. *J. Med. Virol.* 53: 127-138.

## SOURCE

Hep B cAg (13A9) is a mouse monoclonal antibody raised against an epitope corresponding to amino acids 130-140 of Hep B cAg.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

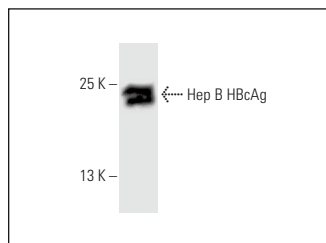
Hep B cAg (13A9) is recommended for detection of the core antigen of Hep B and Woodchuck hepatitis of Hep B and viral origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of Hep B cAg: 21 kDa.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



Hep B HBcAg (13A9): sc-23946. Western blot analysis of human recombinant Hep B HBcAg.

## SELECT PRODUCT CITATIONS

1. Lin, C.J., et al. 2012. CεmX peptide-carrying HBcAg virus-like particles induced antibodies that down-regulate mlgE-B lymphocytes. *Mol. Immunol.* 52: 190-199.
2. Huang, T.J., et al. 2014. Anti-viral effect of a compound isolated from *Liriope platyphylla* against hepatitis B virus *in vitro*. *Virus Res.* 192: 16-24.
3. Wu, J.F., et al. 2014. The impact of hepatitis B virus precore/core gene carboxyl terminal mutations on viral biosynthesis and the host immune response. *J. Infect. Dis.* 209: 1374-1381.
4. Xiang, A., et al. 2015. The hepatitis B virus (HBV) core protein enhances the transcription activation of CRE via the CRE/CREB/CBP pathway. *Antiviral Res.* 120: 7-15.
5. Lin, S.J., et al. 2016. Synthesis of C-4-substituted steviol derivatives and their inhibitory effects against hepatitis B virus. *J. Nat. Prod.* 79: 3057-3064.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.



See **Hep B cAg (C1-5): sc-23945** for Hep B cAg antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.