SANTA CRUZ BIOTECHNOLOGY, INC.

Hep B cAg (10E11): sc-23947

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

SOURCE

Hep B cAg (10E11) is a mouse monoclonal antibody raised against denatured recombinant Hep B cAg.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Hep B cAg (10E11) is available conjugated to agarose (sc-23947 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-23947 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-23947 PE), fluorescein (sc-23947 FITC), Alexa Fluor® 488 (sc-23947 AF488), Alexa Fluor® 546 (sc-23947 AF546), Alexa Fluor® 594 (sc-23947 AF594) or Alexa Fluor® 647 (sc-23947 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-23947 AF680) or Alexa Fluor® 790 (sc-23947 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

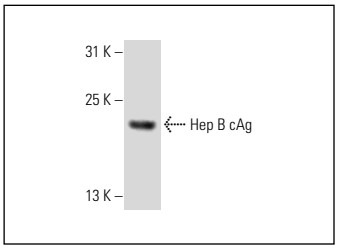
Hep B cAg (10E11) is recommended for detection of an epitope corresponding to amino acids 8-20 of denatured core antigen of Hep B and Woodchuck hepatitis origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Hep B cAg: 21 kDa.

STORAGE

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

DATA



Hep B cAg (10E11): sc-23947. Western blot analysis of human recombinant Hep B cAg.

SELECT PRODUCT CITATIONS

1. Yin, Y., et al. 2014. Deletion modification enhances anthrax specific immunity and protective efficacy of a hepatitis B core particle-based anthrax epitope vaccine. Immunobiology 219: 97-103.
2. Liu, W., et al. 2015. Hepatitis B virus core protein inhibits Fas-mediated apoptosis of hepatoma cells via regulation of mFas/Fas_L and sFas expression. FASEB J. 29: 1113-1123.
3. Ren, S., et al. 2016. Hepatitis B virus stimulated fibronectin facilitates viral maintenance and replication through two distinct mechanisms. PLoS ONE 11: e0152721.
4. Liu, W., et al. 2018. Hepatitis B virus core protein promotes hepatocarcinogenesis by enhancing Src expression and activating the Src/PI3K/Akt pathway. FASEB J. 32: 3033-3046.
5. Jing, Z.T., et al. 2018. Hepatitis B virus surface antigen enhances the sensitivity of hepatocytes to Fas-mediated apoptosis via suppression of Akt phosphorylation. J. Immunol. 201: 2303-2314.
6. Zang, H., et al. 2018. Clinical and virological implications of A1846T and C1913A/G mutations of hepatitis B virus genome in severe liver diseases. Scand. J. Gastroenterol. 53: 319-328.
7. Liu, W., et al. 2019. Repression of death receptor-mediated apoptosis of hepatocytes by hepatitis B virus e antigen. Am. J. Pathol. 189: 2181-2195.
8. Li, M., et al. 2020. MCPIP1 inhibits Hepatitis B virus replication by destabilizing viral RNA and negatively regulates the virus-induced innate inflammatory responses. Antiviral Res. 174: 104705.
9. Wan, H., et al. 2020. 3,4,5-Tri-O-caffeoylquinic acid methyl ester isolated from *Lonicera japonica* Thunb. Flower buds facilitates hepatitis B virus replication in HepG2.2.15 cells. Food Chem. Toxicol. 138: 111250.

RESEARCH USE

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