SANTA CRUZ BIOTECHNOLOGY, INC.

Hep B sAg (1023): sc-53299

BACKGROUND

Hep B (Hepatitis B) virus is a member the hepadnavirus family that causes an inflammation of the liver, vomiting, jaundice and, sometimes, death. Hep B infection is associated with a 100-fold increased risk of hepatocellular carcinoma and currently infects over 250 million people worldwide. Hep B is one of the small number of known non-retroviral viruses that replicate their genome using reverse transcription. Hep B has a partially double stranded 3.2 kilobase DNA genome which contains four open reading frames, one of which encodes a 154 amino acid protein called the HBx protein. Hep B sAg (Hep B surface antigen) is a protein antigen produced by the Hep B virus. When in the blood, Hep B sAg is one of the earliest markers of infection with Hep B, appearing even before symptoms occur.

REFERENCES

1. Aden, D.P., et al. 1979. Controlled synthesis of HBsAg in a differentiated human liver carcinoma-derived cell line. Nature 282: 615-616.
2. Couroucé-Pauty, A.M., et al. 1983. Distribution of HBsAg subtypes in the world. Vox Sang. 44: 197-211.
3. Sun, T.T., et al. 1986. A pilot study on universal immunization of newborn infants in an area of hepatitis B virus and primary hepatocellular carcinoma prevalence with a low dose of hepatitis B vaccine. J. Cell. Physiol. Suppl. 4: 83-90.
4. Samuel, D., et al. 1991. Passive immunoprophylaxis after liver transplantation in HBsAg-positive patients. Lancet 337: 813-815.

SOURCE

Hep B sAg (1023) is a mouse monoclonal antibody raised against recombinant Hep B sAg.

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 sAg (1023) is available conjugated to agarose (sc-53299 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-53299 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53299 PE), fluorescein (sc-53299 FITC), Alexa Fluor® 488 (sc-53299 AF488), Alexa Fluor® 546 (sc-53299 AF546), Alexa Fluor® 594 (sc-53299 AF594) or Alexa Fluor® 647 (sc-53299 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53299 AF680) or Alexa Fluor® 790 (sc-53299 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

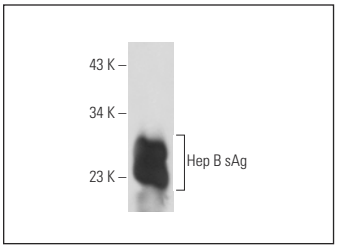
Hep B sAg (1023) is recommended for detection of surface antigen of Hep B origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Molecular Weight of Hep B sAg: 28 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 sAg (1023): sc-53299. Western blot analysis of recombinant hepatitis B surface antigen.

SELECT PRODUCT CITATIONS

1. Novellino, L., et al. 2012. Circulating hepatitis B surface antigen particles carry hepatocellular microRNAs. PLoS ONE 7: e31952.
2. Wu, J., et al. 2014. Hepatitis B surface antigen inhibits MICA and MICB expression via induction of cellular miRNAs in hepatocellular carcinoma cells. Carcinogenesis 35: 155-163.
3. Murphy, C.M., et al. 2016. Hepatitis B virus X protein promotes degradation of SMC5/6 to enhance HBV replication. Cell Rep. 16: 2846-2854.
4. 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 Hep G2.2.15 cells. Food Chem. Toxicol. 138: 111250.
5. Lau, K.C.K., et al. 2020. Differences in HBV replication, APOBEC3 family expression, and inflammatory cytokine levels between wild-type HBV and pre-core (G1896A) or basal core promoter (A1762T/G1764A) mutants. Front. Microbiol. 11: 1653.
6. Battagliotti, J.M., et al. 2020. Characterization of hepatitis B virus surface antigen particles expressed in stably transformed mammalian cell lines containing the large, middle and small surface protein. Antiviral Res. 183: 104936.
7. Jiao, Q., et al. 2021. NLRX1 can counteract innate immune response induced by an external stimulus favoring HBV infection by competitive inhibition of MAVS-RLRs signaling in Hep G2-NTCP cells. Sci. Prog. 104: 368504211058036.
8. Zhang, X., et al. 2022. A polysaccharide from *Eupolyphaga sinensis* walker with anti-HBV activities *in vitro* and *in vivo*. Front. Pharmacol. 13: 827128.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.