

Hep B preS2 (S 26): sc-23944

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. The three major antigens that comprise the Hep B virus include: surface antigen (Hep B sAg, preS1/preS2), an envelope glycoprotein found as membranous aggregates in the sera of individuals infected with Hep B; 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 Hep B diagnosis, whereas Hep B sAg is used for Hep B 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 preS2 (S 26) is a mouse monoclonal antibody raised against purified Hep B sAg isolated from a pool of sera of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Hep B preS2 (S 26) is available conjugated to agarose (sc-23944 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-23944 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-23944 PE), fluorescein (sc-23944 FITC), Alexa Fluor[®] 488 (sc-23944 AF488), Alexa Fluor[®] 546 (sc-23944 AF546), Alexa Fluor[®] 594 (sc-23944 AF594) or Alexa Fluor[®] 647 (sc-23944 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-23944 AF680) or Alexa Fluor[®] 790 (sc-23944 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

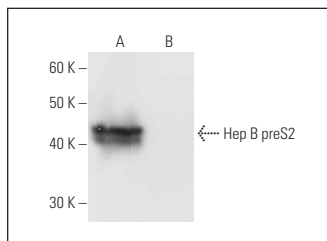
Hep B preS2 (S 26) is recommended for detection of an epitope corresponding to amino acids 132-137 of the preS2 region of Hep B origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

Molecular Weight of Hep B preS2: 30 kDa.

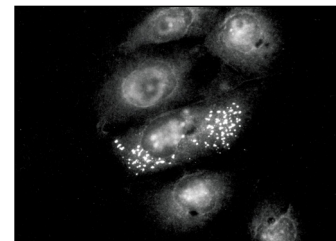
STORAGE

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

DATA



Hep B preS2 (S 26): sc-23944. Western blot analysis Hep B preS2 expression in Hep B-transfected Huh 7 (A) and control (B) whole cell lysates. Image kindly provided by Jinhong Chang and John Taylor at Fox Chase Cancer Center.



Hep B preS2 (S 26): sc-23944. Immunofluorescence staining of human hepatoma cells (Huh7) transiently transfected with an HBsAg (Large, Middle and Small) expression cDNA clone. The positive cell shows a typical punctate cytoplasmic staining. Image kindly provided by Vadim Bichko, Idenix Pharmaceuticals.

SELECT PRODUCT CITATIONS

1. 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.
2. Huang, T.J., et al. 2014. Antiviral activity of chemical compound isolated from *Artemisia morrisonensis* against hepatitis B virus *in vitro*. *Antiviral Res.* 101: 97-104.
3. Lai, M.W., et al. 2016. Hepatocarcinogenesis in transgenic mice carrying hepatitis B virus pre-S/S gene with the sW172* mutation. *Oncogenesis* 5: e273.
4. 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.
5. Kim, G.W., et al. 2020. N⁶-methyladenosine modification of hepatitis B and C viral RNAs attenuates host innate immunity via RIG-I signaling. *J. Biol. Chem.* 295: 13123-13133.
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. Kim, G.W., et al. 2022. N⁶-methyladenosine modification of the 5' ε structure of the HBV pregenome RNA regulates its encapsidation by the viral core protein. *Proc. Natl. Acad. Sci. USA* 119: e2120485119.
8. Kim, G.W., et al. 2022. Hepatitis B virus X protein expression is tightly regulated by N⁶-methyladenosine modification of its mRNA. *J. Virol.* 96: e0165521.

RESEARCH USE

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