

Hep B preS1 (AP2): sc-57762

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, preS1/preS2), an envelope glycoprotein found as membranous aggregates in the sera of individuals infected with HBV; 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. Skrivvelis, 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.

SOURCE

Hep B preS1 (AP2) is a mouse monoclonal antibody raised against Hep B preS1.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Hep B preS1 (AP2) is recommended for detection of preS1 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of Hep B preS1: 13 kDa.

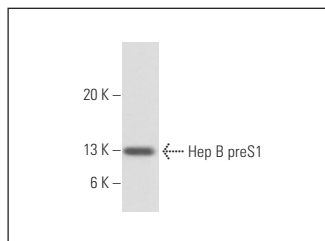
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

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 preS1 (AP2): sc-57762. Western blot analysis of recombinant Hep B preS1.

SELECT PRODUCT CITATIONS

1. Lazar, C., et al. 2012. Activation of ERAD pathway by human hepatitis B virus modulates viral and subviral particle production. *PLoS ONE* 7: e34169.
2. Ren, S., et al. 2016. Hepatitis B virus stimulated fibronectin facilitates viral maintenance and replication through two distinct mechanisms. *PLoS ONE* 11: e0152721.
3. Dobrica, M.O., et al. 2017. A novel chimeric hepatitis B virus S/preS1 antigen produced in mammalian and plant cells elicits stronger humoral and cellular immune response than the standard vaccine-constituent, S protein. *Antiviral Res.* 144: 256-265.
4. Priyambada, S.A., et al. 2018. St6gal1 knockdown alters HBV life cycle in HepAD38 cells. *Biochem. Biophys. Res. Commun.* 503: 1841-1847.
5. Pantazica, A.M., et al. 2022. Efficient cellular and humoral immune response and production of virus-neutralizing antibodies by the hepatitis B virus S/preS116-42 antigen. *Front. Immunol.* 13: 941243.
6. Popescu, M.A., et al. 2022. Sac1 phosphatidylinositol 4-phosphate phosphatase is a novel host cell factor regulating hepatitis B virus particles assembly and release. *FEBS J.* 289: 7486-7499.
7. Pantazica, A.M., et al. 2023. The "humanized" N-glycosylation pathway in CRISPR/Cas9-edited *Nicotiana benthamiana* significantly enhances the immunogenicity of a S/preS1 Hepatitis B Virus antigen and the virus-neutralizing antibody response in vaccinated mice. *Plant Biotechnol. J.* E-published.

RESEARCH USE

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



See **Hep B preS1 (AP1): sc-57761** for Hep B preS1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.