SANTA CRUZ BIOTECHNOLOGY, INC.

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

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- 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.
- 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.
- Cao, T., et al. 2001. In vivo inhibition of anti-hepatitis B virus core antigen (HBcAg) immunoglobulin G production by HBcAg-specific CD4⁺ Th1-type T-cell clones in a hu-PBL-NOD/SCID mouse model. J. Virol. 75: 11449-11456.

SOURCE

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

PRODUCT

Each vial contains 200 μg lgG_{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 μ g per 100-500 μ g 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.

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.
- Ren, S., et al. 2016. Hepatitis B virus stimulated fibronectin facilitates viral maintenance and replication through two distinct mechanisms. PLoS ONE 11: e0152721.
- 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.
- Priyambada, S.A., et al. 2018. St6gal1 knockdown alters HBV life cycle in HepAD38 cells. Biochem. Biophys. Res. Commun. 503: 1841-1847.
- 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.
- 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 virusneutralizing antibody response in vaccinated mice. Plant Biotechnol. J. 21: 1176-1190.
- Tepjanta, P., et al. 2025. *In vitro* and in silico analyses of amino acid substitution effects at the conserved N-linked glycosylation site in hepatitis B virus surface protein on antigenicity, immunogenicity, HBV replication and secretion. PLoS ONE 20: e0316328.

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.