

Hep B xAg (6D456): sc-71239

BACKGROUND

Hep B (hepatitis B) virus is a member of the Hepadnavirus family that causes an inflammation of the liver, vomiting, jaundice and, sometimes, death. Three major antigens make up different parts of the Hep B virus (HBV): surface antigen (Hep B sAg), 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. Hep B xAg represents the Hep B virus X protein which contributes to human hepatocellular carcinoma metastasis by the upregulation of matrix metalloproteinases.

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.
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.
4. 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.
5. 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.
6. Szkaradkiewicz, A., et al. 2003. HBcAg-specific cytokine production by CD4 T lymphocytes of children with acute and chronic hepatitis B. *Virus Res.* 97: 127-133.
7. Chung, T.W., et al. 2004. Hepatitis B viral HBx induces matrix metalloproteinase-9 gene expression through activation of ERK and PI-3K/AKT pathways: involvement of invasive potential. *FASEB J.* 18: 1123-1125.
8. Le Pogam, S., et al. 2005. Exposure of RNA templates and encapsidation of spliced viral RNA are influenced by the arginine-rich domain of human hepatitis B virus core antigen (HBcAg 165-173). *J. Virol.* 79: 1871-1887.

SOURCE

Hep B xAg (6D456) is a mouse monoclonal antibody raised against baculo-virus expressed recombinant Hep B xAg.

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.

APPLICATIONS

Hep B xAg (6D456) is recommended for detection of x-antigen of Hep B 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 xAg: 17 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).

SELECT PRODUCT CITATIONS

1. Na, T.Y., et al. 2008. Liver X receptor mediates hepatitis B virus X protein-induced lipogenesis in hepatitis B virus-associated hepatocellular carcinoma. *Hepatology* 49: 1122-1131.
2. Wu, G., et al. 2011. Hepatitis B virus X protein downregulates expression of the miR-16 family in malignant hepatocytes *in vitro*. *Br. J. Cancer* 105: 146-153.

STORAGE

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

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.