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PA509X Human Hepatitis B X Protein / HBx Tag Free - Purified

Alternate names: HBV Protein X

Quantity: 0.1 mg

Concentration: 0.5 mg/ml (after reconstitution)

Background: Hepatitis B virus X protein (HBx) is a 17 kD transcriptional coactivator that plays a significant role in the regulation of genes involved in inflammation and cell survival. It regulates many transcription factors including nuclear factor kappa B (NF-kappaB) and plays a key role in hepatocarcinogenesis. HBx facilitates the binding of cAMP response element binding protein (CREB) to its responsive element. HBx stabilizes the cellular coactivator ASC-2 through direct protein-protein interaction, affecting the regulation of genes actively transcribed in liver cancer cells. HBx transactivates both JNK and MAPK signal transduction pathways in association with the mobilization of cytosolic Ca2+. The communication between HBx and general transcription factor TFIIB is also one of the mechanisms which account for its transcriptional transactivation. HBx decreased the expression of PTEN a known tumor suppressor and a negative regulator of phosphatidylinositol 3'-kinase/AKT and HBx decreased the expression of PTEN in HBx-transfected cells. The etiology of hepatocellular carcinoma (HCC) is involved with hepatitis B virus (HBV) infection and HBx in particular plays a role in the development of HBV-related HCC. The persistence of HBx is important to the pathogenesis of early HCC and HBx expression in the liver during chronic HBV infection may be an important prognostic marker for the development of HCC.

Species: Human

Source: E.coli

Format: **State:** Filtered (0.4 µm) and lyophilized from 0.5 mg/mL solution in 30 mM acetate buffer, pH 4.
Purity: ›95% determined by densitometric image analysis
Endotoxin Level: ‹ 1.0 EU/µg
Reconstitution: Add 0.1 M acetate buffer pH 4.0 to prepare a working stock solution of 0.5 mg/mL and let the lyophilized pellet dissolve completely. In higher concentrations the solubility of this antigen is limited.
For conversion into higher pH value, we recommend intensive dilution by relevant buffer to a concentration of 10 µg/mL.
Before using the protein in cell culture, filter sterilize your culture media/working solutions because this product is non-sterile.

Applications: ELISA.
Western blotting.
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Description:

Total 154 AA. MW: 17 kDa (calculated). 153 AA of recombinant HBx protein and one extra AA, N-terminal Methionin (bold).

AA Sequence:

MAARVCCQLD PARDVLCLRP VGAESRGRPV SGPFGTLPSP SSSAVPADHG AHLSLRGLPV CAFSSAGPCA LRFTSARRME TTVNAHQVLP KVLHKRTLGL SAMSTTDLEA YFKDCLFKDW EELGEEIRLK VFVLGGCRHK LVCSPAPCNF FTSA

Add. Information:

Quality Control Tests:
- BCA to determine quantity of the protein.
- SDS PAGE to determine purity of the protein.
- LAL TEST to determine quantity of endotoxin.

Storage:

Lyophilized protein can be shipped at ambient temperature.
Upon receipt, store the lyophilized protein preferably at -80°C. Lyophilized protein remains stable for two years when stored at -80°C.
Aliquot reconstituted protein to avoid repeated freezing/thawing cycles and store at -80°C for long term storage.
Reconstituted protein can be stored at 4°C for a week.

General Readings:

1. Song CZ, Bai ZL, Song CC, Wang QW. Aggregate formation of hepatitis B virus X protein affects cell cycle and apoptosis. World J Gastroenterol. 2003 Jul;9(7):1521-4. PubMed PMID: 12854155.
2. Hwang GY, Lin CY, Huang LM, Wang YH, Wang JC, Hsu CT, et al. Detection of the hepatitis B virus X protein (HBx) antigen and anti-HBx antibodies in cases of human hepatocellular carcinoma. J Clin Microbiol. 2003 Dec;41(12):5598-603. PubMed PMID: 14662947.
3. Arbuthnot P, Kew M. Hepatitis B virus and hepatocellular carcinoma. Int J Exp Pathol. 2001 Apr;82(2):77-100. PubMed PMID: 11454100.
4. Tralhao JG, Roudier J, Morosan S, Giannini C, Tu H, Goulenok C, et al. Paracrine in vivo inhibitory effects of hepatitis B virus X protein (HBx) on liver cell proliferation: an alternative mechanism of HBx-related pathogenesis. Proc Natl Acad Sci U S A. 2002 May 14;99(10):6991-6. PubMed PMID: 12011457.
5. Madden CR, Slagle BL. Stimulation of cellular proliferation by hepatitis B virus X protein. Dis Markers. 2001;17(3):153-7. PubMed PMID: 11790880.

Pictures:

14% SDS-PAGE separation of HBx
Cat.No. PA509X:
1. Mol.Weight marker - 14, 21, 31, 45, 66, 97 kDa
2. reduced and heated sample, 5µg/lane
3. non-reduced and non-heated sample, 2.5µg/lane