SANTA CRUZ BIOTECHNOLOGY, INC.

HBXIP siRNA (h): sc-72289

BACKGROUND

HBXIP (hepatitis B virus X-interacting protein), also known as HBV X-interacting protein or HBX-interacting protein, was originally identified by its ability to form a complex with the C-terminus of hepatitis B virus X (HBX) protein. HBXIP negatively regulates the activity of HBX and alters the replicative life cycle of the virus. HBXIP is an evolutionarily conserved protein. It contains a leucine zipper motif and two consensus phosphorylation sites. HBXIP also forms complexes with survivin (an overexpressed protein in most human cancers) and is necessary for allowing survivin to bind and inhibit the activation of pro-caspase-9, suggesting that HBXIP acts as an anti-apoptotic cofactor of survivin. In addition, HBXIP is involved in bipolar spindle formation and regulates centrosome dynamics and cytokinesis in cells, possibly through an interaction with Dynein light chain. The overexpression of HBXIP promotes proliferation in a variety of cells lines.

REFERENCES

1. Melegari, M., et al. 1998. Cloning and characterization of a novel hepatitis B virus x binding protein that inhibits viral replication. J. Virol. 72: 1737-1743.
2. Marusawa, H., et al. 2003. HBXIP functions as a cofactor of survivin in apoptosis suppression. EMBO J. 22: 2729-2740.
3. Capovilla, A., et al. 2003. Hepatitis B virus X protein does not influence essential steps of nucleotide excision repair effected by human liver extracts. Biochem. Biophys. Res. Commun. 312: 806-810.
4. Chandele, A., et al. 2004. Upregulation of survivin in G_2/M cells and inhibition of caspase 9 activity enhances resistance in staurosporine-induced apoptosis. Neoplasia 6: 29-40.
5. Zangemeister-Wittke, U., et al. 2004. An IAP in action: the multiple roles of survivin in differentiation, immunity and malignancy. Cell Cycle 3: 1121-1123.
6. Zhang, X., et al. 2005. Hepatitis B virus X protein upregulates survivin expression in hepatoma tissues. J. Med. Virol. 77: 374-381.
7. Minczuk, M., et al. 2005. Human ATP-dependent RNA/DNA helicase hSuv3p interacts with the cofactor of survivin HBXIP. FEBS J. 272: 5008-5019.

CHROMOSOMAL LOCATION

Genetic locus: LAMTOR5 (human) mapping to 1p13.3.

PRODUCT

HBXIP siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see HBXIP shRNA Plasmid (h): sc-72289-SH and HBXIP shRNA (h) Lentiviral Particles: sc-72289-V as alternate gene silencing products.

For independent verification of HBXIP (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-72289A, sc-72289B and sc-72289C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

HBXIP siRNA (h) is recommended for the inhibition of HBXIP expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

HBXIP (H-5): sc-373980 is recommended as a control antibody for monitoring of HBXIP gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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) 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor HBXIP gene expression knockdown using RT-PCR Primer: HBXIP (h)-PR: sc-72289-PR (20 µl, 459 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.