SANTA CRUZ BIOTECHNOLOGY, INC.

BBX siRNA (h): sc-78083

BACKGROUND

BBX (HMG box transcription factor BBX, Bobby sox homolog, HMG box-containing protein 2) is a 941 amino acid protein encoded by the human gene BBX. BBX is a nuclear protein that contains one high mobility group (HMG) domain that belongs to the Sox (Sry-related HMG box) family of transcription factors. HMG proteins are thought to play a significant role in various human disorders. Disruptions and rearrangements in the genes coding for some of the HMG proteins are associated with common benign tumors. Commonly, antibodies against HMG proteins are found in patients suffering from autoimmune diseases. The SRY gene on the Y Chromosome, responsible for male sexual differentiation, contains a HMG-Box domain. Some HMG proteins have demonstrated extracellular activity as a chemokine, attracting neutrophils and mononuclear inflammatory cells to the infected sites. BBX functions as a transcription factor that is necessary for cell cycle progression from G_1 to S phase.

REFERENCES

1. Yu, W., et al. 1997. Large-scale concatenation cDNA sequencing. Genome Res. 7: 353-358.
2. Sánchez-Díaz, A., et al. 2001. HBP2: a new mammalian protein that complements the fission yeast MBF transcription complex. Curr. Genet. 40: 110-118.
3. Wiemann, S., et al. 2001. Toward a catalog of human genes and proteins: sequencing and analysis of 500 novel complete protein coding human cDNAs. Genome Res. 11: 422-435.
4. Strausberg, R.L., et al. 2002. Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences. Proc. Natl. Acad. Sci. USA 99: 16899-16903.
5. Ota, T., et al. 2003. Complete sequencing and characterization of 21,243 full-length human cDNAs. Nat. Genet. 36: 40-45.

CHROMOSOMAL LOCATION

Genetic locus: BBX (human) mapping to 3q13.12.

PRODUCT

BBX 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 BBX shRNA Plasmid (h): sc-78083-SH and BBX shRNA (h) Lentiviral Particles: sc-78083-V as alternate gene silencing products.

For independent verification of BBX (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-78083A, sc-78083B and sc-78083C.

PROTOCOLS

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

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

BBX siRNA (h) is recommended for the inhibition of BBX 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

BBX (G-2): sc-377041 is recommended as a control antibody for monitoring of BBX 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 BBX gene expression knockdown using RT-PCR Primer: BBX (h)-PR: sc-78083-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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