SANTA CRUZ BIOTECHNOLOGY, INC.

NREBP siRNA (h): sc-91455

BACKGROUND

NREBP (negative regulatory element-binding protein), also known as SON, SON3, BASS1 or DBP-5, is a 2,426 amino acid nuclear speckle protein that is widely expressed, with highest expression in leukocyte and heart. NREBP binds to a specific DNA sequence upstream of the regulatory sequence of the core promoter and second enhancer of human hepatitis B virus (HBV). Through this binding, NREBP represses HBV core promoter activity, transcription of HBV genes and production of HBV virions. NREBP has sequence similarities with other DNA-binding structural proteins such as gallin, Mos and oncoproteins of the Myc family. NREBP may be involved in protecting cells from apoptosis and in pre-mRNA splicing. Ten isoforms exist due to alternative splicing events.

REFERENCES

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2. Chumakov, I.M., et al. 1991. Identification of a protein product of a novel human gene SON and the biological effect upon administering a changed form of this gene into mammalian cells. Mol. Biol. 25: 731-739.
3. Hu, K.Q., et al. 1991. Regulation of the hepatitis B virus gene expression by the enhancer element I. Virology 181: 721-726.
4. Bliskovski , V.V., et al. 1992. Coding part of the son gene small transcript contains four areas of complete tandem repeats. Mol. Biol. 26: 793-806.
5. Bliskovski , V.V., et al. 1992. The human son gene: the large and small transcripts contains various 5'-terminal sequences. Mol. Biol. 26: 807-812.
6. Huan, B., et al. 1993. Regulation of hepatitis B virus gene expression. J. Hepatol. 17: S20-S23.
7. Sun, C.T., et al. 2001. Transcription repression of human hepatitis B virus genes by negative regulatory element-binding protein/SON. J. Biol. Chem. 276: 24059-24067.
8. Moolla, N., et al. 2002. Regulatory elements of hepatitis B virus transcription. J. Viral Hepat. 9: 323-331.

CHROMOSOMAL LOCATION

Genetic locus: SON (human) mapping to 21q22.11.

PRODUCT

NREBP 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 NREBP shRNA Plasmid (h): sc-91455-SH and NREBP shRNA (h) Lentiviral Particles: sc-91455-V as alternate gene silencing products.

For independent verification of NREBP (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-91455A, sc-91455B and sc-91455C.

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

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

NREBP (C-10): sc-398508 is recommended as a control antibody for monitoring of NREBP 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 NREBP gene expression knockdown using RT-PCR Primer: NREBP (h)-PR: sc-91455-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.

PROTOCOLS

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