SANTA CRUZ BIOTECHNOLOGY, INC.

NELF-B siRNA (h): sc-75896

BACKGROUND

NELF-B (negative elongation factor B), also known as COBRA1 (cofactor of BRCA1), is a 580 amino acid protein that localizes to the nucleus and exists as a component of the multi-protein NELF complex, a structure which negatively regulates Pol II-dependent transcription elongation. Expressed in a variety of tissues, including liver, heart, kidney, lung, brain, placenta and pancreas, NELF-B is involved in controlling transcriptional pausing of Pol II and may be able to induce chromatin unfolding, possibly playing a role in tumorigenesis. The gene encoding NELF-B maps to human chromosome 9, which houses over 900 genes and comprises nearly 4% of the human genome. Hereditary hemorrhagic telangiectasia, which is characterized by harmful vascular defects, and Familial dysautonomia, are both associated with chromosome 9. Notably, chromosome 9 encompasses the largest interferon family gene cluster.

REFERENCES

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2. Ye, Q., et al. 2001. BRCA1-induced large-scale chromatin unfolding and allele-specific effects of cancer-predisposing mutations. J. Cell Biol. 155: 911-921.
3. Narita, T., et al. 2003. Human transcription elongation factor NELF: identification of novel subunits and reconstitution of the functionally active complex. Mol. Cell. Biol. 23: 1863-1873.
4. Zhong, H., et al. 2004. COBRA1 inhibits AP-1 transcriptional activity in transfected cells. Biochem. Biophys. Res. Commun. 325: 568-573.
5. McChesney, P.A., et al. 2006. Cofactor of BRCA1: a novel transcription factor regulator in upper gastrointestinal adenocarcinomas. Cancer Res. 66: 1346-1353.
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CHROMOSOMAL LOCATION

Genetic locus: NELFB (human) mapping to 9q34.3.

PRODUCT

NELF-B 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 NELF-B shRNA Plasmid (h): sc-75896-SH and NELF-B shRNA (h) Lentiviral Particles: sc-75896-V as alternate gene silencing products.

For independent verification of NELF-B (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-75896A, sc-75896B and sc-75896C.

RESEARCH USE

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

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

NELF-B siRNA (h) is recommended for the inhibition of NELF-B 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor NELF-B gene expression knockdown using RT-PCR Primer: NELF-B (h)-PR: sc-75896-PR (20 µl). 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.