SANTA CRUZ BIOTECHNOLOGY, INC.

NF-1C siRNA (h): sc-36044

BACKGROUND

The NF-1 family of CCAAT box binding proteins function to stimulate DNA replication and activate transcription. NF-1C (nuclear factor I/C), a member of the NF-1 family, is a 508 amino acid protein that localizes to the nucleus and contains one CTF/NF-I DNA-binding domain. Existing as a homodimer that is able to bind DNA, NF-1C recognizes and binds to the palindromic sequence 5'-TTGGCNNNNNGCCAA-3' (a sequence that is common in both cellular and viral promoters) and, via this binding, plays a role in transcription and replication. NF-1C may participate in TGFβ signaling, extracellular matrix deposition and skin appendage pathologies. Existing as five alternatively spliced isoforms, NF-1C is expressed in numerous tissues including brain, liver, spleen and heart.

REFERENCES

1. Qian, F., et al. 1995. Chromosomal localization of the four genes (NFIA, B, C, and X) for the human transcription factor nuclear factor I by FISH. Genomics 28: 66-73.
2. Leahy, P., et al. 1999. CREB binding protein coordinates the function of multiple transcription factors including nuclear factor I to regulate phosphoenolpyruvate carboxykinase (GTP) gene transcription. J. Biol. Chem. 274: 8813-8822.
3. Lin, C.J., et al. 2001. NF-1C, Sp1, and Sp3 are essential for transcription of the human gene for P450c17 (steroid 17α-hydroxylase/17,20 lyase) in human adrenal NCI-H295A cells. Mol. Endocrinol. 15: 1277-1293.
4. Norquay, L.D., et al. 2003. RFX1 and NF-1 associate with P sequences of the human growth hormone locus in pituitary chromatin. Mol. Endocrinol. 17: 1027-1038.
5. Wang, W., et al. 2004. A role for nuclear factor I in the intrinsic control of cerebellar granule neuron gene expression. J. Biol. Chem. 279: 53491-53497.
6. Gaudreault, M., et al. 2008. Transcriptional regulation of the human α6 integrin gene by the transcription factor NFI during corneal wound healing. Invest. Ophthalmol. Vis. Sci. 49: 3758-3767.
7. Lamani, E., et al. 2009. Tissue- and cell-specific alternative splicing of NFIC. Cells Tissues Organs 189: 105-110.

CHROMOSOMAL LOCATION

Genetic locus: NFIC (human) mapping to 19p13.3.

PRODUCT

NF-1C 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 NF-1C shRNA Plasmid (h): sc-36044-SH and NF-1C shRNA (h) Lentiviral Particles: sc-36044-V as alternate gene silencing products.

For independent verification of NF-1C (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-36044A, sc-36044B and sc-36044C.

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

NF-1C siRNA (h) is recommended for the inhibition of NF-1C 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

NF-1C (4E10-D8-F4): sc-517555 is recommended as a control antibody for monitoring of NF-1C 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor NF-1C gene expression knockdown using RT-PCR Primer: NF-1C (h)-PR: sc-36044-PR (20 µl, 499 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Hebbar, P.B. and Archer, T.K. 2007. Chromatin-dependent cooperativity between site-specific transcription factors *in vivo*. J. Biol. Chem. 282: 8284-8291.

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.