



UTF1 siRNA (h): sc-76878

BACKGROUND

UTF1 (undifferentiated embryonic cell transcription factor 1) is a 341 amino acid protein that localizes to the nucleus and is subject to post-translational phosphorylation. Associating with the TFIID complex via an interaction with the TATA box binding protein (TFIID), UTF1 binds to the N-terminal region of ATF-2 and, via this binding, acts as a transcriptional coactivator of ATF-2, thereby enhancing transcriptional activity. Human UTF1 shares 64% homology with its mouse counterpart, suggesting a similar role between species. The gene encoding UTF1 maps to human chromosome 10, which houses over 1,200 genes and comprises nearly 4.5% of the human genome. Defects in some of the genes that map to chromosome 10 are associated with Charcot-Marie Tooth disease, Jackson-Weiss syndrome, Usher syndrome, nonsyndromic deafness, Wolman's syndrome, Cowden syndrome, multiple endocrine neoplasia type 2 and porphyria.

REFERENCES

1. Okuda, A., et al. 1998. UTF1, a novel transcriptional coactivator expressed in pluripotent embryonic stem cells and extra-embryonic cells. *EMBO J.* 17: 2019-2032.
2. Fukushima, A., et al. 1998. Characterization of functional domains of an embryonic stem cell coactivator UTF1 which are conserved and essential for potentiation of ATF-2 activity. *J. Biol. Chem.* 273: 25840-25849.
3. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 604130. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Nishimoto, M., et al. 2001. Structural analyses of the UTF1 gene encoding a transcriptional coactivator expressed in pluripotent embryonic stem cells. *Biochem. Biophys. Res. Commun.* 285: 945-953.
5. Berger, P., et al. 2002. Molecular cell biology of Charcot-Marie-Tooth disease. *Neurogenetics* 4: 1-15.
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CHROMOSOMAL LOCATION

Genetic locus: UTF1 (human) mapping to 10q26.3.

PRODUCT

UTF1 siRNA (h) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see UTF1 shRNA Plasmid (h): sc-76878-SH and UTF1 shRNA (h) Lentiviral Particles: sc-76878-V as alternate gene silencing products.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

UTF1 siRNA (h) is recommended for the inhibition of UTF1 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 μ M in 66 μ l. 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 UTF1 gene expression knockdown using RT-PCR Primer: UTF1 (h)-PR: sc-76878-PR (20 μ l). 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.