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BEND4 siRNA (m): sc-144380

BACKGROUND

BEND4 (BEN domain-containing protein 4) is a 530 amino acid protein that contains a BEN domain. BEND4 exists as five alternatively spliced isoforms and is considered a complete proteome. BEN domain mediates protein-DNA and protein-protein interactions during chromatin organization and transcription. BEN domain may play a role in organization of viral DNA during replication or transcription. The BEND4 gene maps to human chromosome 4p13. Representing approximately 6% of the human genome, chromosome 4 contains nearly 900 genes. Chromosome 4 reportedly contains the largest gene deserts (regions of the genome with no protein encoding genes) and has one of the two lowest recombination frequencies of the human chromosomes. Notably, the Huntington gene, which is found to encode an expanded glutamine tract in cases of Huntington's disease, is on chromosome 4. FGFR-3 is also encoded on chromosome 4 and has been associated with thanatophoric dwarfism, achondroplasia, Muenke syndrome and bladder cancer.

REFERENCES

1. 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.
2. Ota, T., et al. 2004. Complete sequencing and characterization of 21,243 full-length human cDNAs. *Nat. Genet.* 36: 40-45.
3. Hillier, L.W., et al. 2005. Generation and annotation of the DNA sequences of human chromosomes 2 and 4. *Nature* 434: 724-731.
4. Cowan, C.M., et al. 2006. Selective neuronal degeneration in Huntington's disease. *Curr. Top. Dev. Biol.* 75: 25-71.
5. Stack, E.C., et al. 2007. Neuroprotective effects of synaptic modulation in Huntington's disease R6/2 mice. *J. Neurosci.* 27: 12908-12915.
6. Abhiman, S., et al. 2008. BEN: a novel domain in chromatin factors and DNA viral proteins. *Bioinformatics* 24: 458-461.
7. SWISS-PROT/TrEMBL (Q6ZU67). World Wide Web URL: <http://www.uniprot.org/uniprot/Q6ZU67>

CHROMOSOMAL LOCATION

Genetic locus: Bend4 (mouse) mapping to 5 C3.1.

PRODUCT

BEND4 siRNA (m) 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 BEND4 shRNA Plasmid (m): sc-144380-SH and BEND4 shRNA (m) Lentiviral Particles: sc-144380-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

BEND4 siRNA (m) is recommended for the inhibition of BEND4 expression in mouse 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 BEND4 gene expression knockdown using RT-PCR Primer: BEND4 (m)-PR: sc-144380-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.