SANTA CRUZ BIOTECHNOLOGY, INC.

BEND2 siRNA (h): sc-90872

BACKGROUND

BEND2 (BEN domain-containing protein 2) is a 799 amino acid protein that contains two BEN domains. BEND2 exists as two 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 BEND2 gene maps to human chromosome Xp22.13. Chromosome X consists of about 153 million base pairs and nearly 1,000 genes. The X and Y chromosomes are the human sex chromosomes. The combination of an X and Y chromosome lead to normal male development while two copies of X lead to normal female development. Color blindness, hemophilia, and Duchenne muscular dystrophy are well known X chromosome-linked conditions which affect males more frequently as males carry a single X chromosome.

REFERENCES

1. Bernardino-Sgherri, J., et al. 2002. Overall DNA methylation and chromatin structure of normal and abnormal X chromosomes. Cytogenet. Genome Res. 99: 85-91.
2. Gerhard, D.S., et al. 2004. The status, quality, and expansion of the NIH full-length cDNA project: the Mammalian Gene Collection (MGC). Genome Res. 14: 2121-2127.
3. Deeb, S.S. 2005. The molecular basis of variation in human color vision. Clin. Genet. 67: 369-377.
4. Ross, M.T., et al. 2005. The DNA sequence of the human X chromosome. Nature 434: 325-337.
5. Hayashi, T., et al. 2006. Novel form of a single X-linked visual pigment gene in a unique dichromatic color-vision defect. Vis. Neurosci. 23: 411-417.
6. Abhiman, S., et al. 2008. BEN: a novel domain in chromatin factors and DNA viral proteins. Bioinformatics 24: 458-461.
7. Bahi-Buisson, N., et al. 2010. Epileptic encephalopathy in a girl with an interstitial deletion of Xp22 comprising promoter and exon 1 of the CDKL5 gene. Am. J. Med. Genet. B Neuropsychiatr. Genet. 153B: 202-207.

CHROMOSOMAL LOCATION

Genetic locus: BEND2 (human) mapping to Xp22.13.

PRODUCT

BEND2 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 BEND2 shRNA Plasmid (h): sc-90872-SH and BEND2 shRNA (h) Lentiviral Particles: sc-90872-V as alternate gene silencing products.

For independent verification of BEND2 (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-90872A, sc-90872B and sc-90872C.

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

BEND2 siRNA (h) is recommended for the inhibition of BEND2 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 BEND2 gene expression knockdown using RT-PCR Primer: BEND2 (h)-PR: sc-90872-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.