SANTA CRUZ BIOTECHNOLOGY, INC.

BEAN siRNA (m): sc-141683

BACKGROUND

BEAN, also known as BEAN1, is a 259 amino acid protein that localizes to membrane. The BEAN gene contains seven exons, which are subject to extensive alternative splicing with two known isoforms. A single-pass membrane protein, BEAN contains two PY motifs and a potential transmembrane domain. BEAN is one of several proteins that interact with NEDD4, which is developmentally regulated and is highly expressed in embryonic tissues. NEDD4 is a member of a growing family of ubiquitin-protein ligases that consist of a lipid-binding domain, two to four WW domains and a C-terminal ubiquitin-protein ligase domain. Mutations in BEAN are associated with spinocerebellar ataxia type 31 (SCA31), which is an adult-onset autosomal-dominant neurodegenerative disorder showing progressive cerebellar ataxia mainly affecting Purkinje cells. The BEAN gene maps to human chromosome 16p21.

REFERENCES

1. Jolliffe, C.N., et al. 2000. Identification of multiple proteins expressed in murine embryos as binding partners for the WW domains of the ubiquitin-protein ligase Nedd4. Biochem. J. 351: 557-565.
2. Kamynina, E., et al. 2001. Distinct characteristics of two human Nedd4 proteins with respect to epithelial Na^+ channel regulation. Am. J. Physiol. Renal Physiol. 281: F469-F477.
3. Kamynina, E., et al. 2001. A novel mouse Nedd4 protein suppresses the activity of the epithelial Na^+ channel. FASEB J. 15: 204-214.
4. Kanelis, V., et al. 2001. Solution structure of a Nedd4 WW domain-ENaC peptide complex. Nat. Struct. Biol. 8: 407-412.
5. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 612051. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Sato, N., et al. 2009. Spinocerebellar ataxia type 31 is associated with "inserted" penta-nucleotide repeats containing $(TGGAA)_n$. Am. J. Hum. Genet. 85: 544-557.
7. Pula, J.H., et al. 2010. Ophthalmologic features of the common spinocerebellar ataxias. Curr. Opin. Ophthalmol. 21: 447-453.
8. SWISS-PROT/TrEMBL (Q3B7T3). World Wide Web URL: http://www.uniprot.org/uniprot/Q3B7T3

CHROMOSOMAL LOCATION

Genetic locus: Bean1 (mouse) mapping to 8 D3.

PRODUCT

BEAN 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see BEAN shRNA Plasmid (m): sc-141683-SH and BEAN shRNA (m) Lentiviral Particles: sc-141683-V as alternate gene silencing products.

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

BEAN siRNA (m) is recommended for the inhibition of BEAN 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 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 BEAN gene expression knockdown using RT-PCR Primer: BEAN (m)-PR: sc-141683-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.