SANTA CRUZ BIOTECHNOLOGY, INC.

BCDIN3 siRNA (m): sc-72628

BACKGROUND

BCDIN3 (bicoid-interacting protein 3), also known as MEPCE (methylphosphate capping enzyme), is a 689 amino acid protein that contains one BIN3 domain and belongs to the methyltransferase superfamily. Expressed in lung, brain, kidney, testis, mammary gland and cerebellum, BCDIN3 exists as a component of the multi-protein 7SK snRNP complex and functions as an S-adenosyl-L-methionine-dependent methyltransferase that stabilizes 7SK snRNA, specifically by adding a methylphosphate cap at the 5'-end of the snRNA. In addition to its expression in normal tissues, BCDIN3 is also present in chronic myeloid leukemia cells, suggesting a role in tumor progression and metastasis. The gene encoding BCDIN3 maps to human chromosome 7, which houses over 1,000 genes and comprises nearly 5% of the human genome. Defects in some of the genes localized to chromosome 7 have been linked to Osteogenesis imperfecta, Williams-Beuren syndrome, Pendred syndrome, Lissencephaly, Citrullinemia and Shwachman-Diamond syndrome.

REFERENCES

1. Rogers, S.A., et al. 2002. Identification and characterization of a novel gene encoding a SEREX antigen in chronic myeloid leukaemia. Br. J. Haematol. 119: 112-114.
2. Jeronimo, C., et al. 2007. Systematic analysis of the protein interaction network for the human transcription machinery reveals the identity of the 7SK capping enzyme. Mol. Cell 27: 262-274.
3. Kaneko, S., et al. 2007. Human capping enzyme promotes formation of transcriptional R loops *in vitro*. Proc. Natl. Acad. Sci. USA 104: 17620-17625.
4. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611478. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Krueger, B.J., et al. 2008. LARP7 is a stable component of the 7SK snRNP while P-TEFb, HEXIM1 and hnRNP A1 are reversibly associated. Nucleic Acids Res. 36: 2219-2229.

CHROMOSOMAL LOCATION

Genetic locus: Mepce (mouse) mapping to 5 G2.

PRODUCT

BCDIN3 siRNA (m) 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 BCDIN3 shRNA Plasmid (m): sc-72628-SH and BCDIN3 shRNA (m) Lentiviral Particles: sc-72628-V as alternate gene silencing products.

For independent verification of BCDIN3 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-72628A, sc-72628B and sc-72628C.

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

BCDIN3 siRNA (m) is recommended for the inhibition of BCDIN3 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 BCDIN3 gene expression knockdown using RT-PCR Primer: BCDIN3 (m)-PR: sc-72628-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.