SANTA CRUZ BIOTECHNOLOGY, INC.

BM88 siRNA (m): sc-141717

BACKGROUND

BM88, also known as CEND1 (cell cycle exit and neuronal differentiation protein 1), is a 149 amino acid protein that belongs to the CEND1 familly. Involved in neuroblastoma cell differentiation, BM88 is a single-pass type IV membrane protein that is neuron specific. It is suggested that BM88 forms a dimer of two identical polypeptides linked by disulfide bridges. BM88 has a central proline-rich region containing four PxxP motifs, which typically bind SRC homology-3 (SH3) domains, as well as a putative C-terminal transmembrane region, and several potential sites for N-glycosylation, myristoylation and phosphorylation. It is also suggested that a novel signaling mechanism exists by which BM88 interferes with calcium release from inositol 1,4,5-trisphosphate-sensitive stores and exerts anti-proliferative and anti-apoptotic functions. BM88 is an important molecular target for HDAC inhibition, and transcription of BM88 is induced by trichostatin-A.

REFERENCES

1. Patsavoudi, E., et al. 1991. Purification and characterization of neuron-specific surface antigen defined by monoclonal antibody BM88. J. Neurochem. 56: 782-788.
2. Mamalaki, A., et al. 1995. The BM88 antigen, a novel neuron-specific molecule, enhances the differentiation of mouse neuroblastoma cells. J. Biol. Chem. 270: 14201-14208.
3. Online Mendelian Inheritance in Man, OMIM™. 2003 Johns Hopkins University, Baltimore, MD. MIM Number: 608213. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Kawaji, H., et al. 2008. Hidden layers of human small RNAs. BMC Genomics 9: 157.
5. Politis, P.K., et al. 2008. BM88/Cend1 is involved in histone deacetylase inhibition-mediated growth arrest and differentiation of neuroblastoma cells. FEBS Lett. 582: 741-748.
6. Katsimpardi, L., et al. 2008. BM88/Cend1 expression levels are critical for proliferation and differentiation of subventricular zone-derived neural precursor cells. Stem Cells 26: 1796-1807.
7. Masgrau, R., et al. 2009. BM88/Cend1 regulates stimuli-induced intracellular calcium mobilization. Neuropharmacology 56: 598-609.

CHROMOSOMAL LOCATION

Genetic locus: Cend1 (mouse) mapping to 7 F5.

PRODUCT

BM88 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 BM88 shRNA Plasmid (m): sc-141717-SH and BM88 shRNA (m) Lentiviral Particles: sc-141717-V as alternate gene silencing products.

For independent verification of BM88 (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-141717A, sc-141717B and sc-141717C.

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

BM88 siRNA (m) is recommended for the inhibition of BM88 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.

GENE EXPRESSION MONITORING

BM88 (G-7): sc-398447 is recommended as a control antibody for monitoring of BM88 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 s(dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor BM88 gene expression knockdown using RT-PCR Primer: BM88 (m)-PR: sc-141717-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.