SANTA CRUZ BIOTECHNOLOGY, INC.

CaBP8 siRNA (m): sc-105175

BACKGROUND

Calcium plays an essential role in many biological processes. The calcium binding protein (CaBP) family shares much similarity with CaM I (calmodulin). It has been shown that CaBP proteins can substitute functionally for, and possibly augment the function of, CaM I. Calcium binding proteins play a crucial role in the calcium-mediated cellular signal transduction pathway in the central nervous system. There are several members of the family with varying expression patterns. Like other members of the CaBP family, CaBP8 (calcium-binding protein 8), also known as Calneuron I, is a 219 amino acid protein that contains two EF hand motifs, suggesting that the protein is involved in binding of calcium. This brain-specific protein is found at highest levels in cerebellum, cortex, hippocampus and striatum. A unique C-terminal transmembrane domain is present within CaBP8 that may permit the sensing of spatially restricted, specialized intracellular calcium signals particularly within the *trans*-Golgi network.

REFERENCES

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3. Wu, Y.Q., et al. 2001. Identification of a human brain-specific gene, calneuron 1, a new member of the calmodulin superfamily. Mol. Genet. Metab. 72: 343-350.
4. Bootman, M.D., et al. 2001. Calcium signalling—an overview. Semin. Cell Dev. Biol. 12: 3-10.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607176. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Mikhaylova, M., et al. 2006. Neuronal Ca^{2+} signaling via caldendrin and calneurons. Biochim. Biophys. Acta 1763: 1229-1237.
7. Burgoyne, R.D. 2007. Neuronal calcium sensor proteins: generating diversity in neuronal Ca^{2+} signalling. Nat. Rev. Neurosci. 8: 182-193.

CHROMOSOMAL LOCATION

Genetic locus: Caln1 (mouse) mapping to 5 G1.3.

PRODUCT

CaBP8 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 CaBP8 shRNA Plasmid (m): sc-105175-SH and CaBP8 shRNA (m) Lentiviral Particles: sc-105175-V as alternate gene silencing products.

For independent verification of CaBP8 (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-105175A, sc-105175B and sc-105175C.

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

CaBP8 siRNA (m) is recommended for the inhibition of CaBP8 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 CaBP8 gene expression knockdown using RT-PCR Primer: CaBP8 (m)-PR: sc-105175-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.