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SANTA CRUZ BIOTECHNOLOGY, INC.

Nap-22 siRNA (h): sc-44610

BACKGROUND

Neuronal axonal membrane protein Nap-22, also designated neuronal tissue-enriched acidic protein or brain acid soluble protein (BASP1), is a Ca^{2+}-dependent calmodulin-binding protein that is important for neuronal sprouting and plasticity. Nap-22 is abundant in brain nerve terminals and is also present in significant amounts in kidney, testis and lymphoid tissue. Nap-22 undergoes N-terminal myristoylation for membrane localization. It has been characterized as a major protein of neuronal rafts, which are known to preferentially bind membranes containing cholesterol. Nap-22 is a crucial protein active in neurite outgrowth and synaptic plasticity.

REFERENCES

1. Mosevitsky, M.I., et al. 1997. The BASP1 family of myristoylated proteins abundant in axonal termini. Primary structure analysis and physico-chemical properties. Biochimie 79: 373-384.
2. Park, S., et al. 1998. Characterization of bovine and human cDNAs encoding Nap-22 (22 kDa neuronal tissue-enriched acidic protein) homologs. Mol. Cell 8: 471-477.
3. Zakharov, V.V., et al. 2003. Natural N-terminal fragments of brain abundant myristoylated protein BASP1. Biochim. Biophys. Acta 1622: 14-19.
4. Epand, R.M., et al. 2004. Cholesterol-dependent partitioning of PtdIns (4,5)P2 into membrane domains by the N-terminal fragment of Nap-22 (neuronal axonal myristoylated membrane protein of 22 kDa). Biochem. J. 379: 527-532.
5. Iino, S., et al. 2004. Motor, sensory and autonomic nerve terminals containing Nap-22 immunoreactivity in the rat muscle. Brain Res. 1002: 142-150.
6. Epand, R.F., et al. 2005. Induction of raft-like domains by a myristoylated Nap-22 peptide and its Tyr mutant. FEBS J. 272: 1792-1803.
7. Mosevitsky, M.I. 2005. Nerve ending "signal" proteins GAP-43, MARCKS and BASP1. Int. Rev. Cytol. 245: 245-325.
8. Morris, J.S., et al. 2006. Involvement of axonal guidance proteins and their signaling partners in the developing mouse mammary gland. J. Cell. Physiol. 206: 16-24.

CHROMOSOMAL LOCATION

Genetic locus: BASP1 (human) mapping to 5p15.1.

PRODUCT

Nap-22 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 Nap-22 shRNA Plasmid (h): sc-44610-SH and Nap-22 shRNA (h) Lentiviral Particles: sc-44610-V as alternate gene silencing products.

For independent verification of Nap-22 (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-44610A, sc-44610B and sc-44610C.

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

Nap-22 siRNA (h) is recommended for the inhibition of Nap-22 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 Nap-22 gene expression knockdown using RT-PCR Primer: Nap-22 (h)-PR: sc-44610-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Xu, W., et al. 2015. MicroRNA-191, by promoting the EMT and increasing CSC-like properties, is involved in neoplastic and metastatic properties of transformed human bronchial epithelial cells. Mol. Carcinog. 54: E148-E161.

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.