

α -internexin siRNA (m): sc-41993

BACKGROUND

α -internexin is a brain specific type IV intermediate filament protein. This axonal protein is found in most, if not all, neurons of the CNS. The head domain of α -internexin is essential for self-assembly into a filament network. Expression levels of α -internexin have been shown to be maximal during late embryogenesis and to decline into adulthood, suggesting that this protein plays a role in regulatory processes during the development of the brain. The α -internexin promoter has been shown to be activated by Brn-3a or Brn-3c transcription factor binding, while Brn-3b binding to the promoter results in α -internexin repression.

REFERENCES

1. Fliegner, K.H., et al. 1990. The predicted amino acid sequence of α -internexin is that of a novel neuronal intermediate filament protein. *EMBO. J.* 9: 749-755.
2. Fliegner, K.H., et al. 1994. Expression of the gene for the neuronal intermediate filament protein α -internexin coincides with the onset of neuronal differentiation in the developing rat nervous system. *J. Comp. Neurol.* 342: 161-173.
3. Budhram-Mahadeo, V., et al. 1995. Activation of the α -internexin promoter by the Brn-3a transcription factor is dependent on the N-terminal region of the protein. *J. Biol. Chem.* 270: 2853-2858.
4. Suzuki, T., et al. 1997. Excitable membranes and synaptic transmission: postsynaptic mechanisms. Localization of α -internexin in the postsynaptic density of the rat brain. *Brain Res.* 765: 74-80.
5. Ching, G.Y., et al. 1998. Roles of head and tail domains in α -internexin's self-assembly and coassembly with the neurofilament triplet proteins. *J. Cell Sci.* 111: 321-333.

CHROMOSOMAL LOCATION

Genetic locus: Ina (mouse) mapping to 19 C3.

PRODUCT

α -internexin 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see α -internexin shRNA Plasmid (m): sc-41993-SH and α -internexin shRNA (m) Lentiviral Particles: sc-41993-V as alternate gene silencing products.

For independent verification of α -internexin (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-41993A, sc-41993B and sc-41993C.

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.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

α -internexin siRNA (m) is recommended for the inhibition of α -internexin 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 μ M in 66 μ l. 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

α -internexin (G-9): sc-271302 is recommended as a control antibody for monitoring of α -internexin 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (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 α -internexin gene expression knockdown using RT-PCR Primer: α -internexin (m)-PR: sc-41993-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.