

NAIP1 siRNA (h): sc-42038

BACKGROUND

NAIP (for neuronal apoptosis inhibitory protein) is a protein that inhibits apoptosis of neurons and other cell types and its gene is often mutated in severe cases of spinal muscular atrophy, a disease characterized by motor neuron degeneration. NAIP (mostly copy 2) mRNA transcripts are expressed in macrophage-rich tissues, such as spleen, lung, and liver and are abundant in primary macrophages. NAIP is expressed in mouse macrophages, in the cell line RAW 264.7, in anterior horn and motor cortex neurons of normal brains, in human fetal neurons and in adult choroid plexus cells. NAIP expression is increased after phagocytic events and during infection with *L. pneumophila*. There are at least three NAIP gene copies that encode full length mRNA and possible functional proteins, NAIP1, 2 and 3.

REFERENCES

1. Lefebvre, S., et al. 1995. Identification and characterization of a spinal muscular atrophy-determining gene. *Cell* 80: 155-165.
2. Roy, N., et al. 1995. The gene for neuronal apoptosis inhibitory protein is partially deleted in individuals with spinal muscular atrophy. *Cell* 80: 167-178.
3. Liston, P., et al. 1996. Suppression of apoptosis in mammalian cells by NAIP and a related family of IAP genes. *Nature* 379: 349-353.
4. Xu, D.G., et al. 1997. Elevation of neuronal expression of NAIP reduces ischemic damage in the rat hippocampus. *Nat. Med.* 3: 997-1004.
5. Yaraghi, Z., et al. 1998. Cloning and characterization of the multiple murine homologues of NAIP (neuronal apoptosis inhibitory protein). *Genomics* 51: 107-113.
6. Diez, E., et al. 2000. The neuronal apoptosis inhibitory protein (NAIP) is expressed in macrophages and is modulated after phagocytosis and during intracellular infection with *Legionella pneumophila*. *J. Immunol.* 164: 1470-1477.
7. Pari, G., et al. 2000. Immunolocalization of NAIP in the human brain and spinal cord. *Neuroreport* 11: 9-14.

CHROMOSOMAL LOCATION

Genetic locus: NAIP (human) mapping to 5q13.2.

PRODUCT

NAIP1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NAIP1 shRNA Plasmid (h): sc-42038-SH and NAIP1 shRNA (h) Lentiviral Particles: sc-42038-V as alternate gene silencing products.

For independent verification of NAIP1 (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-42038A, sc-42038B and sc-42038C.

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 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

NAIP1 siRNA (h) is recommended for the inhibition of NAIP1 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor NAIP1 gene expression knockdown using RT-PCR Primer: NAIP1 (h)-PR: sc-42038-PR (20 μ l, 466 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Grandjean, T., et al. 2017. The human NAIP-NLRC4-inflammasome senses the *Pseudomonas aeruginosa* T3SS inner-rod protein. *Int. Immunol.* 29: 377-384.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.