



Nrp siRNA (m): sc-150071

BACKGROUND

Nrp, also known as neural regeneration protein or DNA demethylase ALKBH1, is a 135 amino acid murine protein. Nrp is thought to play a role in the induction of neural migration and proliferation, promotion of neuronal survival, enhancement of neurite outgrowth and promotion of neuronal differentiation from neural stem cells, which suggests it is a neuronal survival-promoting factor. The activity spectrum of Nrp is similar to the chemokine stromal-derived factor (SDF)-1, and the predicted protein sequence contains domains with homology to survival-promoting peptide (SPP) and the trefoil protein TFF-1. Nrp interacts with ERK1/2 and Akt kinases and p44/42 MAP kinase in order to effect neuronal survival and neural migration. The gene that encodes murine Nrp is located on mouse chromosome 12 D2, and currently has no known human homolog.

REFERENCES

1. Carninci, P., et al. 1999. High-efficiency full-length cDNA cloning. *Meth. Enzymol.* 303: 19-44.
2. Ko, M.S., et al. 2000. Large-scale cDNA analysis reveals phased gene expression patterns during preimplantation mouse development. *Development.* 127: 1737-1749.
3. Carninci, P., et al. 2000. Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes. *Genome Res.* 10: 1617-1630.
4. Shibata, K., et al. 2000. RIKEN integrated sequence analysis (RISA) system—384-format sequencing pipeline with 384 multicapillary sequencer. *Genome Res.* 10: 1757-1771.
5. Tanaka, T.S., et al. 2000. Genome-wide expression profiling of mid-gestation placenta and embryo using a 15,000 mouse developmental cDNA microarray. *Proc. Natl. Acad. Sci. USA* 97: 9127-9132.
6. Kawai, J., et al. 2001. Functional annotation of a full-length mouse cDNA collection. *Nature* 409: 685-690.
7. Katayama, S., et al. 2005. Antisense transcription in the mammalian transcriptome. *Science* 309: 1564-1566.
8. Gorba, T., et al. 2006. Neural regeneration protein is a novel chemoattractive and neuronal survival-promoting factor. *Exp. Cell Res.* 312: 3060-3074.

CHROMOSOMAL LOCATION

Genetic locus: Nrp (mouse) mapping to 12 D2.

PRODUCT

Nrp siRNA (m) is a target-specific 19-25 nt siRNA 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 Nrp shRNA Plasmid (m): sc-150071-SH and Nrp shRNA (m) Lentiviral Particles: sc-150071-V as alternate gene silencing products.

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

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

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Nrp gene expression knockdown using RT-PCR Primer: Nrp (m)-PR: sc-150071-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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