

NOR-1 siRNA (h): sc-38842

BACKGROUND

Nur77 (also designated NGFI-B), Nurrl (nur-related factor 1) and NOR-1 (neuron-derived orphan receptor-1) constitute the NGFI-B subfamily within the nuclear receptor superfamily. Ligands for these proteins have not been identified, and, therefore, they are designated "orphan nuclear receptors". Genes of the NGFI-B subfamily are classified as immediate-early genes, which are induced rapidly, but transiently, in response to a variety of stimuli. They have been implicated in cell proliferation, differentiation and apoptosis. The human NOR-1 gene maps to chromosome 9q22.33 and encodes a protein which is expressed in heart, skeletal muscle, thymus and spleen as well as in brain, where it is developmentally regulated. Therefore, NOR-1 may be involved in regulating neural differentiation. The NOR-1 gene also undergoes chromosomal translocation with the EWS gene to produce a protein thought to affect pre-mRNA splicing.

REFERENCES

- Ohkura, N., et al. 1996. Structure, mapping and expression of a human NOR-1 gene, the third member of the Nur77/NGFI-B family. *Biochim. Biophys. Acta* 1308: 205-214.
- Ohkura, N., et al. 1996. Antisense oligonucleotide to NOR-1, a novel orphan nuclear receptor, induces migration and neurite extension of cultured forebrain cells. *Brain Res. Mol. Brain Res.* 35: 309-313.
- Maruyama, K., et al. 1997. Expression of the putative transcription factor NOR-1 in the nervous, the endocrine and the immune systems and the developing brain of the rat. *Neuroendocrinology* 65: 2-8.
- Maruyama, K., et al. 1998. The NGFI-B subfamily of the nuclear receptor superfamily (review). *Int. J. Oncol.* 12: 1237-1243.

CHROMOSOMAL LOCATION

Genetic locus: NR4A3 (human) mapping to 9q22.33.

PRODUCT

NOR-1 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 NOR-1 shRNA Plasmid (h): sc-38842-SH and NOR-1 shRNA (h) Lentiviral Particles: sc-38842-V as alternate gene silencing products.

For independent verification of NOR-1 (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-38842A, sc-38842B and sc-38842C.

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

NOR-1 siRNA (h) is recommended for the inhibition of NOR-1 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.

GENE EXPRESSION MONITORING

NOR-1 (H-7): sc-393902 is recommended as a control antibody for monitoring of NOR-1 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 NOR-1 gene expression knockdown using RT-PCR Primer: NOR-1 (h)-PR: sc-38842-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

- Malhotra, S.S. and Gupta, S.K. 2017. Relevance of the NR4A sub-family of nuclear orphan receptors in trophoblastic BeWo cell differentiation. *Cell. Mol. Biol. Lett.* 22: 15.
- You, K., et al. 2017. NOR1 promotes hepatocellular carcinoma cell proliferation and migration through modulating the Notch signaling pathway. *Exp. Cell Res.* 352: 375-381.

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.