

NCAM-L1 siRNA (h): sc-43172

BACKGROUND

Cell adhesion molecules are a family of closely related cell surface glycoproteins involved in cell-cell interactions during growth and are thought to play an important role in embryogenesis and development. Neuronal cell adhesion molecule (NCAM) expression is observed in a variety of human tumors, including neuroblastomas, rhabdomyosarcomas, Wilm's tumors, Ewing's sarcomas and some primitive myeloid malignancies. The NCAM-L1 adhesion molecule (CD171) plays an important role in axon guidance and cell migration in the nervous system. The presence of NCAM-L1 might contribute to tumor progression by promoting cell adhesion and migration and is known to be expressed by neurons, neuroblastomas and other malignant tumors.

REFERENCES

1. Kemshead, J.T., et al. 1983. Monoclonal antibody UJ 127:11 detects a 220,000-240,000 kDa glycoprotein present on a subset of neuroectodermally derived cells. *Int. J. Cancer* 31: 187-195.
2. Bourne, S., et al. 1989. Monoclonal antibodies M340 and UJ181.4 recognize antigens associated with primitive neuroectodermal tumours/tissues. *Hybridoma* 8: 415-426.
3. Patel, K., et al. 1993. Vase mini-exon usage by NCAM is not restricted to tumours of neuroectodermal origin. *Int. J. Cancer* 54: 772-777.
4. Jorgensen, O.S. 1995. Neural cell adhesion molecule (NCAM) as a quantitative marker in synaptic remodeling. *Neurochem. Res.* 20: 533-547.
5. Edelman, G.M. and Jones, F.S. 1995. Developmental control of NCAM expression by HOX and PAX gene products. *Philos. Trans. R. Soc. Lond., B, Biol. Sci.* 349: 305-312.

CHROMOSOMAL LOCATION

Genetic locus: L1CAM (human) mapping to Xq28.

PRODUCT

NCAM-L1 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 NCAM-L1 shRNA Plasmid (h): sc-43172-SH and NCAM-L1 shRNA (h) Lentiviral Particles: sc-43172-V as alternate gene silencing products.

For independent verification of NCAM-L1 (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-43172A, sc-43172B and sc-43172C.

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

NCAM-L1 siRNA (h) is recommended for the inhibition of NCAM-L1 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

NCAM-L1 (D-5): sc-374046 is recommended as a control antibody for monitoring of NCAM-L1 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 NCAM-L1 gene expression knockdown using RT-PCR Primer: NCAM-L1 (h)-PR: sc-43172-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

1. Roberts, C.M., et al. 2016. TWIST1 drives cisplatin resistance and cell survival in an ovarian cancer model, via upregulation of GAS6, L1CAM, and Akt signalling. *Sci. Rep.* 6: 37652.
2. Nam, J.K., et al. 2021. An antibody against L1 cell adhesion molecule inhibits cardiotoxicity by regulating persistent DNA damage. *Nat. Commun.* 12: 3279.

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.