SANTA CRUZ BIOTECHNOLOGY, INC.

NCAM2 siRNA (h): sc-91388

BACKGROUND

NCAM2 (neural cell adhesion molecule 2) is an 837 amino acid protein encoded by the human gene NCAM2. NCAM2 contains five immunoglobulin-like domains, two Fibronectin type III domains, a transmembrane domain and a cytoplasmic domain. The gene is expressed most strongly in human adult and fetal brain. NCAM2 is a member of the neural cell adhesion molecule (NCAM) family. NCAMs are closely related cell surface glycoproteins involved in cell to cell interactions during growth and are thought to play an important role in embryogenesis and development. NCAM2 is a considered a good candidate for involvement in certain Down syndrome phenotypes because a slight overexpression of NCAMs increases many-fold the homotypic adhesion properties of cells. Stat5 regulates NCAM2 *in vivo* by binding to the NCAM2 intron in the NKL natural killer cell line; this binding is induced by cytokines that activate Stat5. Neither Stat1 nor Stat3 bind to this region, despite sharing a consensus binding sequence with Stat5.

REFERENCES

1. de Leij, L., et al. 1985. Characterization of three new variant type cell lines derived from small cell carcinoma of the lung. Cancer Res. 45: 6024-6033.
2. De Leij, L., et al. 1987. CHEST 91S: 9-11.
3. Berendsen, H.H., et al. 1988. Detection of small cell lung cancer metastases in bone marrow aspirates using monoclonal antibody directed against neuroendocrine differentiation antigen. Clin. Pathol. 41: 273-276.
4. Berendsen, H.H., et al. 1988. Simultaneous standard light microscopy and immunohistology on bronchoscopically procured lung cancer specimens. Eur. J. Cancer Clin. Oncol. 24: 915-922.
5. Berendsen, H.H. et al. 1989. Clinical characterization of non-small-cell lung cancer tumors showing neuroendocrine differentiation features. J. Clin. Oncol. 7: 1614-1620.
6. Lanier, L.L., et al. 1989. Identity of Leu-19 (CD56) leucocyte differentiation antigen and neural cell adhesion molecule. J. Exp. Med. 169: 2233-2238.

CHROMOSOMAL LOCATION

Genetic locus: NCAM2 (human) mapping to 21q21.1.

PRODUCT

NCAM2 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NCAM2 shRNA Plasmid (h): sc-91388-SH and NCAM2 shRNA (h) Lentiviral Particles: sc-91388-V as alternate gene silencing products.

For independent verification of NCAM2 (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-91388A, sc-91388B and sc-91388C.

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

NCAM2 siRNA (h) is recommended for the inhibition of NCAM2 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 µM in 66 µl. 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

NCAM2 (44): sc-136328 is recommended as a control antibody for monitoring of NCAM2 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 NCAM2 gene expression knockdown using RT-PCR Primer: NCAM2 (h)-PR: sc-91388-PR (20 µl, 521 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.