

NCAM (MEM 188): sc-20005

BACKGROUND

Neural cell adhesion molecules (NCAMs) are a family of closely related cell surface glycoproteins involved in cell to cell interactions during growth and thought to play an important role in embryogenesis and development. The expression of these molecules is widespread in all three germ layers during embryogenesis, but is more restrictive in adult tissues. NCAM expression is observed in a variety of human tumors including neuroblastomas, rhabdomyosarcomas, Wilms' tumor, Ewing's sarcoma and some primitive myeloid malignancies. Multiple isoforms of NCAM have been reported in both mouse and human brain tissue. The 180 and 140 kDa isoforms are transmembrane proteins. In humans, NCAMs arise from differential splicing and use of alternative polyadenylation sites of a single gene found on chromosome 11 at q23.

REFERENCES

1. Edelman, G.M. 1985. Cell adhesion and the molecular processes of morphogenesis. *Annu. Rev. Biochem.* 54: 135-169.
2. Cunningham, B.A., et al. 1987. Neural cell adhesion molecule: structure, immunoglobulin-like domains, cell surface modulation and alternative RNA splicing. *Science* 236: 799-806.
3. Lipinski, M., et al. 1987. Characterization of neural cell adhesion molecules (NCAM) expressed by Ewing and neuroblastoma cell lines. *Int. J. Cancer* 40: 81-86.
4. Walsh, F.S. 1988. The NCAM gene is a complex transcriptional unit. *Neurochem. Int.* 12: 263-267.
5. Roth, J., et al. 1988. Presence of the long chain form of polysialic acid of the neural cell adhesion molecule in Wilms' tumor: identification of a cell adhesion molecule as an oncodevelopmental antigen and implications for tumor histogenesis. *Amer. J. Pathol.* 133: 227-240.
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.
7. Figarella-Branger, D.F., et al. 1990. Differential spectrum of expression of neural cell adhesion molecule isoforms and L1 adhesion molecules on neuroectodermal tumors. *Cancer Res.* 50: 6364-6370.

CHROMOSOMAL LOCATION

Genetic locus: NCAM1 (human) mapping to 11q23.1; Ncam1 (mouse) mapping to 9 A5.3.

SOURCE

NCAM (MEM 188) is a mouse monoclonal antibody raised against KG-1 acute myelogenous leukaemia cell line.

PRODUCT

Each vial contains 100 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as phycoerythrin (sc-20005 PE), fluorescein (sc-20005 FITC) or PE-Cy5 (sc-20005 PEC5) conjugates for flow cytometry, 100 tests.

APPLICATIONS

NCAM (MEM 188) is recommended for detection of NCAM of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for NCAM siRNA (h): sc-29404, NCAM shRNA Plasmid (h): sc-29404-SH and NCAM shRNA (h) Lentiviral Particles: sc-29404-V.

Molecular Weight of NCAM isoforms: 140/180 kDa.

Molecular Weight of NCAM GPI-linked isoforms: 120/125 kDa.

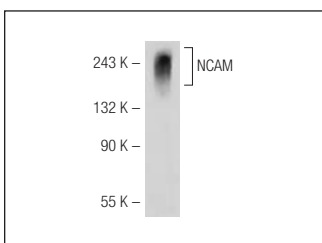
Molecular Weight of NCAM soluble fragment: 110 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, SK-N-SH cell lysate: sc-2410 or human lymphoma.

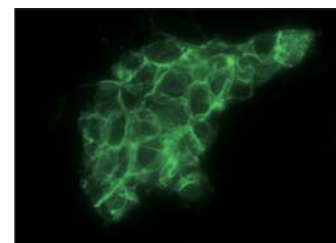
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

DATA



NCAM (MEM 188): sc-20005. Western blot analysis of NCAM expression in IMR-32 whole cell lysate.



NCAM (MEM 188): sc-20005. Immunofluorescence staining of methanol-fixed IMR-32 cells showing membrane localization.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

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