SANTA CRUZ BIOTECHNOLOGY, INC.

NCAM2 (44): sc-136328

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The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: NCAM2 (human) mapping to 21q21.1; Ncam2 (mouse) mapping to 16 C3.3.

SOURCE

NCAM2 (44) is a mouse monoclonal antibody raised against amino acids 479-677 of NCAM2 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

NCAM2 (44) is available conjugated to agarose (sc-136328 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; and to HRP (sc-136328 HRP), 200 µg/ml, for WB, IHC(P) and ELISA.

APPLICATIONS

NCAM2 (44) is recommended for detection of NCAM2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Suitable for use as control antibody for NCAM2 siRNA (h): sc-91388, NCAM2 siRNA (m): sc-149850, NCAM2 shRNA Plasmid (h): sc-91388-SH, NCAM2 shRNA Plasmid (m): sc-149850-SH, NCAM2 shRNA (h) Lentiviral Particles: sc-91388-V and NCAM2 shRNA (m) Lentiviral Particles: sc-149850-V.

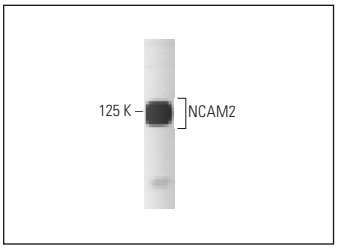
Molecular Weight of NCAM2 isoforms: 94/125 kDa.

Positive Controls: rat brain extract: sc-2392, SK-N-SH cell lysate: sc-2410 or IMR-32 cell lysate: sc-2409.

RECOMMENDED SUPPORT REAGENTS

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.

DATA



NCAM2 (44): sc-136328. Western blot analysis of NCAM2 expression in rat brain tissue extract.

SELECT PRODUCT CITATIONS

1. Leshchyns'ka, I., et al. 2015. Aβ-dependent reduction of NCAM2-mediated synaptic adhesion contributes to synapse loss in Alzheimer's disease. Nat. Commun. 6: 8836.
2. Sheng, L., et al. 2015. Neural cell adhesion molecule 2 promotes the formation of filopodia and neurite branching by inducing submembrane increases in Ca^{2+} levels. J. Neurosci. 35: 1739-1752.
3. Sheng, L., et al. 2019. Neural cell adhesion molecule 2 (NCAM2)-induced c-Src-dependent propagation of submembrane Ca^{2+} spikes along dendrites inhibits synapse maturation. Cereb. Cortex 29: 1439-1459.
4. Gronseth, E., et al. 2020. Astrocytes influence medulloblastoma phenotypes and CD133 surface expression. PLoS ONE 15: e0235852.
5. Kim, W., et al. 2021. Spatiotemporal processing of neural cell adhesion molecules 1 and 2 by BACE1 *in vivo*. J. Biol. Chem. 296: 100372.
6. Keable, R., et al. 2022. The BACE1-generated C-terminal fragment of the neural cell adhesion molecule 2 (NCAM2) promotes BACE1 targeting to Rab11-positive endosomes. Cell. Mol. Life Sci. 79: 555.

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. Not for resale.

PROTOCOLS

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