SANTA CRUZ BIOTECHNOLOGY, INC.

NrCAM (N-18): sc-18958

BACKGROUND

Neuronal cell adhesion molecule (NrCAM) is a cell surface protein of the immunoglobulin (Ig) superfamily. NrCAM (also known as Bravo) contains six Ig domains, five Fibronectin repeats, a transmembrane region and an intracellular domain. NrCAM is expressed in brain, spinal cord, peripheral nervous system and pancreas. In the spinal cord, NrCAM acts as a ligand for axonin-1 to guide commissural axons across the floor plate. NrCAM also acts as a ligand for F3 to control Actin-dependent growth cone motility. NrCAM interacts with Neurofascin and may facilitate the clustering of the cystoskeletal protein Ankyrin G and the voltage-dependent sodium channel proteins at the node of Ranvier. NrCAM expression may play a role in the severity of certain types of tumors. NrCAM is overexpressed in high-grade astrocytomas, gliomas and glioblastoma tumor tissues. In the pancreas, NrCAM expression is upregulated in intraductal hyperplasia. Antisense NrCAM reduces the tumorigenic properties of human glioblastoma cells *in vitro* and slowed tumor growth *in vivo*. The gene encoding human NrCAM maps to chromosome 7q31.1.

REFERENCES

1. Lane, R.P., et al. 1996. Characterization of a highly conserved human homolog to the chicken neural cell surface protein Bravo/NrCAM that maps to chromosome band 7q31. Genomics 35: 456-465.
2. Stoeckli, E.T., et al. 1997. Interference with axonin-1 and NrCAM interactions unmasks a floor-plate activity inhibitory for commissural axons. Neuron 18: 209-221.
3. Sehgal, A., et al. 1998. Cell adhesion molecule NrCAM is over-expressed in human brain tumors. Int. J. Cancer 76: 451-458.
4. Sehgal, A., et al. 1999. Antisense human neuroglia related cell adhesion molecule hNrCAM, reduces the tumorigenic properties of human glioblastoma cells. Anticancer Res. 19: 4947-4953.
5. Faivre-Sarrailh, C., et al. 1999. NrCAM, cerebellar granule cell receptor for the neuronal adhesion molecule F3, displays an Actin-dependent mobility in growth cones. J. Cell Sci. 112: 3015-3027.
6. Dhodapkar, K.M., et al. 2001. Differential expression of the cell-adhesion molecule NrCAM in hyperplastic and neoplastic human pancreatic tissue. Hum. Pathol. 32: 396-400.

CHROMOSOMAL LOCATION

Genetic locus: NRCAM (human) mapping to 7q31.1; Nrcam (mouse) mapping to 12 B3.

SOURCE

NrCAM (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of NrCAM of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-18958 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NrCAM (N-18) is recommended for detection of NrCAM of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

NrCAM (N-18) is also recommended for detection of NrCAM in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for NrCAM siRNA (h): sc-43174, NrCAM siRNA (m): sc-43175, NrCAM shRNA Plasmid (h): sc-43174-SH, NrCAM shRNA Plasmid (m): sc-43175-SH, NrCAM shRNA (h) Lentiviral Particles: sc-43174-V and NrCAM shRNA (m) Lentiviral Particles: sc-43175-V.

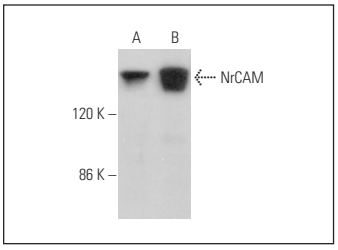
Molecular Weight of NrCAM isoforms: 144/137/131 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, mouse brain extract: sc-2253 or human cerebellum tissue extract.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



NrCAM (N-18): sc-18958. Western blot analysis of NrCAM expression in mouse brain (**A**) and human cerebellum (**B**) tissue extracts.

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.