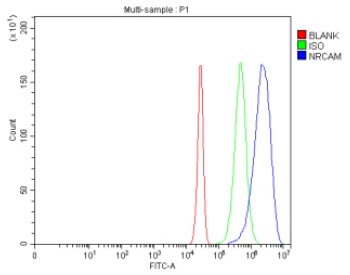
NRCAM Antibody / Neuronal cell adhesion molecule (FY12537)

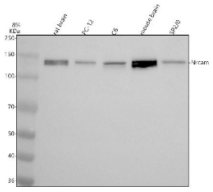
Catalog No.	Formulation	Size
FY12537	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q810U4
Applications	Western Blot: 0.25-0.5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This NRCAM antibody is available for research use only.



Flow Cytometry analysis of Neuro2a cells using anti-NRCAM antibody. Overlay histogram showing Neuro2a cells stained with (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-NRCAM antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Western blot analysis of NRCAM using anti-NRCAM antibody. Electrophoresis was performed on a 8% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: rat brain tissue lysates, Lane 2: rat PC-12 whole cell lysates, Lane 3: mouse C6 whole cell lysates, Lane 4: mouse brain tissue lysates, Lane 5: mouse SP2/0 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-NRCAM antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using an ECL Plus Western Blotting Substrate. NRCAM (~144 kDa predicted) was detected as a doublet around ~136 kDa, consistent with the known differential glycosylation and proteolytic processing that produce multiple mature NrCAM species.

Description

NRCAM antibody detects Neuronal cell adhesion molecule, a type I transmembrane glycoprotein belonging to the L1 family of cell adhesion molecules (CAMs). NRCAM promotes axonal guidance, synapse formation, and cell-cell communication during nervous system development. The NRCAM antibody is widely used in neuroscience, developmental biology, and neuro-oncology research to study neuronal adhesion, axonal fasciculation, and signal transduction.

NRCAM is encoded by the NRCAM gene located on human chromosome 7q31.1. The protein is approximately 135 kilodaltons and comprises six immunoglobulin-like domains, five fibronectin type III repeats, a single transmembrane segment, and a short cytoplasmic tail containing ankyrin-binding motifs. These structural features allow NRCAM to interact with both extracellular ligands and intracellular cytoskeletal adaptors, linking adhesion to signal transduction and cytoskeletal organization.

The NRCAM antibody detects a 135 kilodalton band by western blot and exhibits strong membrane and axonal staining in neuronal cultures and brain tissue. NRCAM mediates homophilic and heterophilic interactions with other cell adhesion molecules, including contactin and L1CAM, forming complexes that regulate neurite outgrowth, axonal pathfinding, and synapse stabilization. In developing neurons, NRCAM clusters at growth cones, coordinating adhesion with actin dynamics and microtubule extension.

NRCAM also participates in signaling cascades involving the MAPK and PI3K pathways, modulating neuronal survival and differentiation. In non-neuronal tissues, NRCAM contributes to cell migration and epithelial morphogenesis, while in cancer, its overexpression promotes tumor cell adhesion and metastasis, particularly in melanoma, glioma, and prostate carcinoma.

Genetic and expression studies link NRCAM variants to neurodevelopmental and psychiatric conditions, including autism spectrum disorder and schizophrenia, suggesting that altered cell adhesion signaling may underlie synaptic dysfunction. NSJ Bioreagents provides a validated NRCAM antibody optimized for its applications, enabling detailed investigation of neuronal adhesion, developmental patterning, and disease-related signaling mechanisms.

Application Notes

Optimal dilution of the NRCAM antibody should be determined by the researcher.

Immunogen

E.coli-derived human NRCAM recombinant protein (Position: R207-Q1025) was used as the immunogen for the NRCAM antibody.

Storage

After reconstitution, the NRCAM antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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