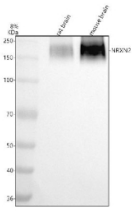
NRXN2 Antibody / Neurexin 2 (FY12895)

Catalog No.	Formulation	Size
FY12895	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	P58401
Applications	Western Blot: 0.25-0.5ug/ml
Limitations	This NRXN2 antibody is available for research use only.



Western blot analysis of NRXN2 using anti-NRXN2 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: mouse brain tissue 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-NRXN2 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. A diffuse ~185 kDa band is detected in rat and mouse brain lysates, consistent with the heavily glycosylated alpha isoform of NRXN2. The hazy migration pattern reflects heterogeneous glycosylation and alternative splicing commonly reported for neurexins in neuronal tissue.

Description

NRXN2 antibody detects Neurexin 2, a presynaptic cell adhesion molecule that plays a key role in synapse formation, neuronal communication, and neurotransmitter release. Encoded by the NRXN2 gene on chromosome 11q13.1, this

protein belongs to the neurexin family of cell surface receptors that mediate trans-synaptic signaling by binding postsynaptic partners such as neuroligins and LRRTMs. Neurexin 2 is expressed primarily in the brain and spinal cord, where it contributes to the assembly and maintenance of excitatory and inhibitory synapses.

Structurally, Neurexin 2 exists in multiple isoforms generated by alternative promoter usage and extensive splicing, including a long alpha form and a shorter beta form. The alpha isoform contains laminin, neurexin, and sex hormone-binding globulin (LNS) domains as well as EGF-like repeats that facilitate adhesion and receptor interaction. The beta isoform retains the transmembrane and cytoplasmic PDZ-binding motifs that mediate synaptic signaling. These isoforms together ensure molecular diversity and specificity in synapse targeting and stability.

The NRXN2 antibody is widely used in neuroscience, neurodevelopmental, and molecular signaling research to study synaptic connectivity, axon guidance, and neuropsychiatric disorders. Western blot analysis detects multiple bands corresponding to the various isoforms of Neurexin 2 (ranging from 95 to 160 kilodaltons), while immunofluorescence shows punctate staining along axons and presynaptic terminals. This antibody enables characterization of neurexin distribution and expression in both developing and mature neural networks.

Functionally, Neurexin 2 regulates synapse formation by bridging pre- and postsynaptic membranes, facilitating calcium channel clustering and neurotransmitter release. Mutations or deletions in NRXN2 have been associated with autism spectrum disorder, schizophrenia, and intellectual disability, reflecting its critical role in neuronal circuit function. The NRXN2 antibody provides an essential tool for examining how neurexin-mediated adhesion and signaling shape neuronal connectivity and plasticity. NSJ Bioreagents validates this antibody for its applications, ensuring accurate detection for neurobiological research.

Application Notes

Optimal dilution of the NRXN2 antibody should be determined by the researcher.

Immunogen

A synthetic peptide corresponding to a sequence at the N-terminus of human NRXN2 was used as the immunogen for the NRXN2 antibody.

Storage

After reconstitution, the NRXN2 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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