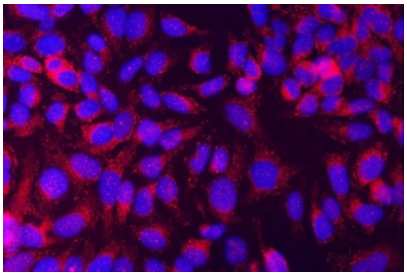
MUNC18-1 Antibody / Synaptic Vesicle Exocytosis Protein Antibody (R32158)

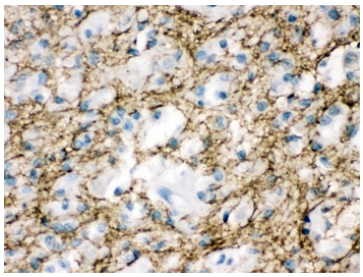
Catalog No.	Formulation	Size
R32158	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

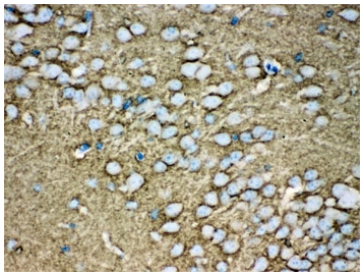
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2.5% BSA and 0.025% sodium azide
UniProt	P61764
Localization	Cytoplasmic, membranous
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 1-2ug/ml Immunofluorescence: 5ug/ml Flow cytometry: 1-3ug/million cells Immunoprecipitation: 2ug per 500ug of lysate
Limitations	This MUNC18-1 Antibody / Synaptic Vesicle Exocytosis Protein Antibody is available for research use only.



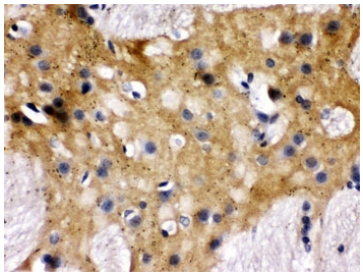
MUNC18-1 Antibody Human HeLa Cell IF. Immunofluorescent staining of FFPE human HeLa cells with MUNC18-1 antibody (red). Heat-induced epitope retrieval (HIER) was performed by steaming sections in pH 6 citrate buffer for 20 minutes prior to staining. Nuclei were counterstained with DAPI (blue). MUNC18-1 staining is predominantly cytoplasmic with a punctate distribution throughout the cells, consistent with the expected intracellular localization of STXBP1. The negative control, in which the primary antibody was omitted, showed no specific fluorescence.



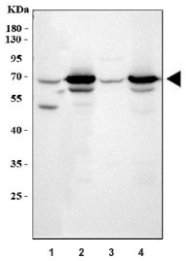
MUNC18-1 Antibody Human Glioma IHC. Immunohistochemical staining of FFPE human glioma tissue with MUNC18-1 antibody. Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in pH 6, 10 mM citrate buffer for 20 minutes and allowing them to cool prior to staining. Strong MUNC18-1 immunoreactivity is observed predominantly within the cytoplasm and along the cell membranes of glioma cells, consistent with the expected intracellular localization of STXBP1. Cell nuclei are counterstained with hematoxylin (blue).



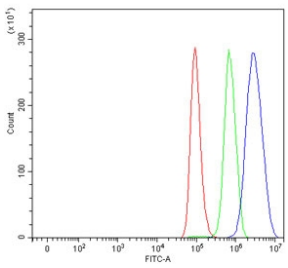
MUNC18-1 Antibody Mouse Brain IHC. Immunohistochemical staining of FFPE mouse brain tissue with MUNC18-1 antibody. Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in pH 6, 10 mM citrate buffer for 20 minutes and allowing them to cool prior to staining. Strong MUNC18-1 immunoreactivity is observed throughout the brain parenchyma, with prominent cytoplasmic staining of neuronal cell bodies and processes, consistent with the expected neuronal expression pattern of STXBP1. Cell nuclei are counterstained with hematoxylin (blue).



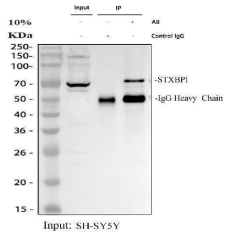
MUNC18-1 Antibody Rat Brain IHC. Immunohistochemical staining of FFPE rat brain tissue with MUNC18-1 antibody. Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in pH 6, 10 mM citrate buffer for 20 minutes and allowing them to cool prior to staining. Strong MUNC18-1 immunoreactivity is observed predominantly within the cytoplasm of neurons throughout the brain, with diffuse staining extending into the surrounding neuropil, consistent with the expected neuronal localization of STXBP1. Cell nuclei are counterstained with hematoxylin (blue).



Western blot testing of 1) human HeLa, 2) rat brain, 3) rat C6 and 4) mouse brain lysate with MUNC18-1 antibody. Expected molecular weight ~69 kDa.



MUNC18-1 Antibody Human A549 FACS. Flow cytometric analysis of human A549 cells using MUNC18-1 antibody at 1 ug/10^6 cells following blocking with goat sera. Red: cells alone. Green: isotype control. Blue: MUNC18-1 antibody. The MUNC18-1 antibody produces a clear rightward shift in fluorescence intensity relative to the isotype control, demonstrating specific detection of endogenous MUNC18-1/STXBP1 expression in A549 cells.



Munc18-1 Antibody SH-SY5Y IP-WB. Immunoprecipitation of Munc18-1/STXBP1 from human SH-SY5Y whole cell lysate using Munc18-1 antibody. Lane 1: SH-SY5Y whole cell lysate input (30 ug). Lane 2: Rabbit IgG immunoprecipitation negative control. Lane 3: Munc18-1 antibody immunoprecipitation performed using 2 ug antibody and 500 ug SH-SY5Y whole cell lysate. Following immunoprecipitation, samples were analyzed by Western blot using the same Munc18-1 antibody at 0.5 ug/ml. A specific band is detected at approximately 70 kDa in both the input and Munc18-1 immunoprecipitation lanes, consistent with the predicted molecular weight of approximately 67 kDa. The absence of the target band in the IgG control confirms specific enrichment of Munc18-1/STXBP1. The IgG heavy chain is visible at approximately 50 kDa in the immunoprecipitated samples.

Description

MUNC18-1 Antibody recognizes Syntaxin Binding Protein 1 (STXBP1), a highly conserved neuronal protein that is indispensable for regulated synaptic vesicle exocytosis. MUNC18-1 belongs to the Sec1/Munc18 protein family and functions as a master regulator of neurotransmitter release by controlling the assembly and activity of the SNARE complex. Through its interaction with syntaxin-1, MUNC18-1 coordinates synaptic vesicle docking, priming, and membrane fusion, allowing rapid calcium-dependent neurotransmitter release at presynaptic terminals. Because of this essential role in synaptic transmission, MUNC18-1 Antibody is widely used to investigate neuronal communication, synaptic physiology, vesicle trafficking, and neurological disease mechanisms.

MUNC18-1 is expressed predominantly in neurons throughout the central and peripheral nervous systems, where it is required for both the development and maintenance of functional synapses. Loss or disruption of STXBP1 impairs synaptic vesicle fusion and markedly reduces neurotransmitter release. Human mutations in STXBP1 have been linked to severe neurodevelopmental disorders including early infantile epileptic encephalopathy, developmental delay, intellectual disability, autism spectrum disorders, and movement disorders. These discoveries have established MUNC18-1 as an important biomarker for neuroscience research and have increased the value of MUNC18-1 Antibody for studies examining synaptic dysfunction, epilepsy, and neurodegeneration. In addition to neuronal tissues, STXBP1 continues to be investigated for broader roles in regulated membrane trafficking and secretory pathways.

At the molecular level, MUNC18-1 binds syntaxin in both its closed and SNARE-complex-associated conformations, facilitating proper assembly of the exocytotic machinery while regulating vesicle fusion efficiency. The protein also interacts with synaptobrevin, SNAP25, Munc13 proteins, and other components that coordinate neurotransmitter release. Dynamic regulation through phosphorylation and protein-protein interactions enables neurons to rapidly modulate synaptic strength in response to changing physiological conditions. Consequently, MUNC18-1 Antibody is frequently employed to examine presynaptic organization, vesicle cycling, synaptic plasticity, and the molecular mechanisms governing neuronal secretion. It is equally valuable for evaluating experimental models of epilepsy, neurodevelopmental disease, and other disorders affecting synaptic transmission.

NSJ Bioreagents offers carefully validated MUNC18-1 Antibody products suitable for applications including western blotting, immunohistochemistry, immunofluorescence, immunoprecipitation, and flow cytometry. These antibodies provide reliable detection of endogenous STXBP1 across multiple sample types and experimental systems. Researchers studying synaptic vesicle biology, neuronal development, neurotransmitter release, and diseases caused by defective synaptic transmission can utilize MUNC18-1 Antibody to investigate protein localization, expression levels, and functional regulation in both basic and translational neuroscience research.

Explore additional antibodies for synaptic proteins, neurotransmitter signaling and nervous system research on our Neuroscience Antibodies page.

Application Notes

Optimal dilution of the MUNC18-1 Antibody / Synaptic Vesicle Exocytosis Protein Antibody should be determined by the researcher.

Immunogen

Amino acids KEYPAVRYRGEYKDNALLAQLIQDKLDAYKADD of human MUNC18-1 were used as the immunogen for the MUNC18-1 antibody.

Storage

After reconstitution, the MUNC18-1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

STXBP1 antibody, Syntaxin Binding Protein 1 antibody, Unc18-1 antibody, N-Sec1 antibody, Protein unc-18 homolog 1 antibody, Neuronal Sec1 antibody

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