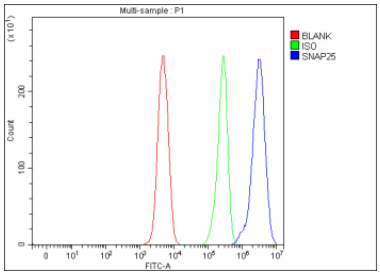
SNAP25 Antibody / Synaptosomal-associated protein 25 (FY12559)

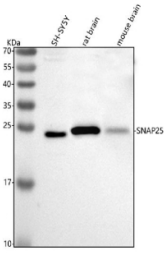
Catalog No.	Formulation	Size
FY12559	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
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	P60880
Applications	ELISA : 0.1-0.5ug/ml Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells
Limitations	This SNAP25 antibody is available for research use only.



Flow Cytometry analysis of SH-SY5Y cells using anti-SNAP25 antibody. Overlay histogram showing SH-SY5Y cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-SNAP25 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 (Red line) was also used as a control.



Western blot analysis of SNAP25 using anti-SNAP25 antibody. Lane 1: human SH-SY5Y whole cell lysates, Lane 2: rat brain tissue lysates, Lane 3: 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-SNAP25 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 enhanced chemiluminescent. The expected molecular weight of SNAP25 is 24-25 kDa.

Description

SNAP25 antibody detects Synaptosomal-associated protein 25, a key component of the SNARE complex responsible for synaptic vesicle docking and neurotransmitter release. SNAP25 is essential for calcium-triggered exocytosis in neurons and neuroendocrine cells, making it a crucial mediator of synaptic transmission. The SNAP25 antibody is widely used in neurobiology to study vesicle fusion, neurotransmission, and synaptic plasticity.

SNAP25 is encoded by the SNAP25 gene located on human chromosome 20p12.2. The protein is approximately 25 kilodaltons and anchored to the plasma membrane via palmitoylated cysteine residues in its central linker region. SNAP25 interacts with syntaxin and synaptobrevin (VAMP) to form the ternary SNARE complex, which brings vesicle and plasma membranes into close proximity for fusion. This complex enables rapid and precise neurotransmitter release at presynaptic terminals.

The SNAP25 antibody detects a 25 kilodalton band by western blot and shows punctate presynaptic staining in neurons and neuroendocrine cells. SNAP25 participates in multiple exocytic events, including insulin secretion, catecholamine release, and synaptic vesicle recycling. It also regulates short-term synaptic plasticity by modulating vesicle pool dynamics.

Phosphorylation of SNAP25 by protein kinases such as PKC and CDK5 fine-tunes its role in vesicle priming and fusion probability. Mutations or altered expression of SNAP25 are linked to neurological and psychiatric disorders, including attention deficit hyperactivity disorder, epilepsy, and schizophrenia. Reduced SNAP25 function leads to synaptic transmission defects and cognitive impairment.

In addition to neurons, SNAP25 expression occurs in pancreatic beta-cells and endocrine tissues, reflecting its conserved role in vesicle exocytosis. NSJ Bioreagents provides a validated SNAP25 antibody optimized for western blot, flow cytometry, and neuronal culture staining, supporting detailed analysis of neurotransmitter release, synaptic machinery, and neurosecretory regulation.

Application Notes

Optimal dilution of the SNAP25 antibody should be determined by the researcher.

Immunogen

E.coli-derived human SNAP25 recombinant protein (Position: R31-L203) was used as the immunogen for the SNAP25 antibody.

Storage

After reconstitution, the SNAP25 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.