Technical Data Sheet

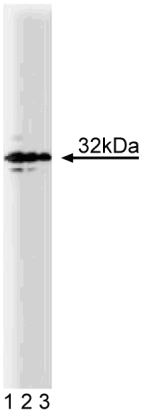
Purified Mouse Anti-Syntaxin 4

Product Information

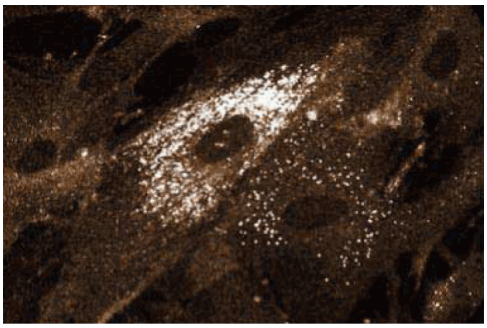
Material Number:	**610440**
Alternate Name:	STX4
Size:	150 µg
Concentration:	250 µg/ml
Clone:	49/Syntaxin 4
Immunogen:	Human Syntaxin 4 aa. 1-280
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Human
Target MW:	32 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

Signal transmission between neurons is regulated by the release of neurotransmitters at the synapse. This process is controlled by a complex pathway of membrane trafficking in the presynaptic nerve terminal, which leads to membrane fusion and subsequent neurotransmitter secretion. Syntaxin is involved in three important protein complexes that modulate this process: syntaxin and n-sec1, syntaxin, VAMP and SNAP-25, and syntaxin, VAMP, SNAP-25, αSNAP, and NSF (20S complex). A model has been proposed to explain docking, activation, and fusion of synaptic vesicles with donor membranes. This model suggests that VAMP/synaptobrevin and synaptotagmin (vSNARE) on the synaptic vesicle, and SNAP-25 and syntaxin (tSNAREs) on the plasma membrane, interact to form a 7S complex. It appears that syntaxin associates with -sec1 prior to and/or during the formation of the 7S complex. Two additional soluble proteins, αSNAP and NSF, associate with this complex as synaptotagmin releases from the complex. The resulting 20S complex contains syntaxin, SNAP-25, VAMP, αSNAP, and NSF. A large region including the N-terminus is involved in binding n-sec1 while both VAMP and SNAP-25 bind within residues 199-288 of syntaxin.



Western blot analysis of Syntaxin 4 on human endothelial lysate. *Lane 1: 1:5000, lane 2: 1:10000, lane 3: 1:20000 dilution of anti-Syntaxin 4.*



Immunfluorescent staining of Human Intestinal Smooth Muscle (HISM) cells.

Preparation and Storage

Store undiluted at -20°C.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

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Application Notes

Application

Western blot	Routinely Tested
Immunoprecipitation	Tested During Development
Immunofluorescence	Tested During Development
Immunohistochemistry	Not Recommended

Suggested Companion Products

Catalog Number	Name	Size	Clone
611450	Human Endothelial Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Ig	0.5 mg	Polyclonal

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
5. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.

References

Bennett MK, Calakos N, Scheller RH. Syntaxin: a synaptic protein implicated in docking of synaptic vesicles at presynaptic active zones. *Science.* 1992; 257(5067):255-259. (Biology)

Faigle W, Colucci-Guyon E, Louvard D, Amigorena S, Galli T. Vimentin filaments in fibroblasts are a reservoir for SNAP23, a component of the membrane fusion machinery. *Mol Biol Cell.* 2000; 11(10):3485-3494. (Clone-specific: Immunofluorescence)

Kee Y, Lin RC, Hsu SC, Scheller RH. Distinct domains of syntaxin are required for synaptic vesicle fusion complex formation and dissociation. *Neuron.* 1995; 14(5):991-998. (Biology)

Polgár J, Chung SH, Reed GL. Vesicle-associated membrane protein 3 (VAMP-3) and VAMP-8 are present in human platelets and are required for granule secretion. *Dev Biol.* 2002; 100(3):1081-1083. (Clone-specific: Immunoprecipitation, Western blot)

Ramalho-Santos J, Moreno RD. SNAREs in mammalian sperm: possible implications for fertilization. *Dev Biol.* 2000; 223(1):54-69. (Clone-specific: Electron microscopy, Immunofluorescence, Western blot)

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