



Syntaxin 1 (SP5): sc-65509

BACKGROUND

Correct vesicular transport is essential to the survival of eukaryotic cells. This process is determined by specific pairing of vesicle-associated SNAREs (v-SNAREs) with those on the target membrane (t-SNAREs). This complex then recruits soluble NSF attachment proteins (SNAPs) and N-ethylmaleimide-sensitive factor (NSF) to form the highly stable SNAP receptor (SNARE) complex. The formation of a SNARE complex pulls the vesicle and target membrane together and may provide the energy to drive fusion of the lipid bilayers. SNAPs, including α - and γ -SNAP, are cytoplasmic proteins that bind to a membrane receptor complex composed of VAMP, SNAP 25 and Syntaxin 1. Syntaxins, including Syntaxin 1, comprise a family of proteins involved in the fusion of synaptic vesicles with the plasma membrane. The Syntaxin family displays broad tissue distribution and contains C-terminal hydrophobic domains that direct them to their respective intracellular compartments.

REFERENCES

1. Elferink, L.A., et al. 1993. A role for synaptotagmin (p65) in regulated exocytosis. *Cell* 72: 153-159.
2. Bennett, M.K., et al. 1993. The Syntaxin family of vesicular transport receptors. *Cell* 74: 863-873.
3. Yamaguchi, K. and Akagawa, K. 1994. Exocytosis relating proteins in the nervous system. *Neurosci. Res.* 20: 289-292.
4. Hayashi, T., et al. 1994. Synaptic vesicle membrane fusion complex: action of clostridial neurotoxins on assembly. *EMBO J.* 13: 5051-5061.
5. Edelmann, L., et al. 1995. Synaptobrevin binding to synaptophysin: a potential mechanism for controlling the exocytosis fusion machine. *EMBO J.* 14: 224-231.
6. McMahon, H.T. and Sudhof, T.C. 1995. Synaptic core complex of synaptobrevin, Syntaxin and SNAP25 forms high affinity α -SNAP binding site. *J. Biol. Chem.* 270: 2213-2217.
7. Lin, R.C. and Scheller, R.H. 1997. Structural organization of the synaptic exocytosis core complex. *Neuron* 19: 1087-1094.
8. Barnard, R.J., et al. 1997. Stimulation of NSF ATPase activity by α -SNAP is required for SNARE complex disassembly and exocytosis. *J. Cell Biol.* 139: 875-883.

CHROMOSOMAL LOCATION

Genetic locus: STX1A (human) mapping to 7q11.23, STX1B (human) mapping to 16p11.2; Stx1a (mouse) mapping to 5 G2, Stx1b (mouse) mapping to 7 F2.

SOURCE

Syntaxin 1 (SP5) is a mouse monoclonal antibody raised against a crude fraction of human schizophrenic brain homogenate immunoprecipitated using a SYP antibody.

PRODUCT

Each vial contains 200 μ g IgG₁ lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Syntaxin 1 (SP5) is recommended for detection of Syntaxin 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Syntaxin 1 (SP5) is also recommended for detection of Syntaxin 1 in additional species, including porcine and hamster.

Molecular Weight of Syntaxin 1: 35 kDa.

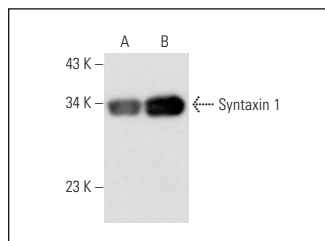
Positive Controls: SH-SY5Y cell lysate: sc-3812, rat brain extract: sc-2392 or PC-12 cell lysate: sc-2250.

RECOMMENDED SUPPORT REAGENTS

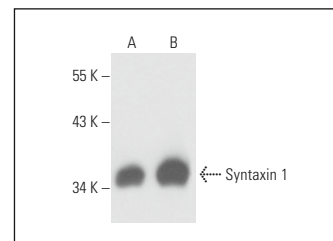
To ensure optimal results, the following support reagents are recommended:

- 1) Western Blotting: use m-IgG λ BP-HRP: sc-516132 or m-IgG λ BP-HRP (Cruz Marker): sc-516132-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.
- 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
- 3) Immunofluorescence: use m-IgG λ BP-FITC: sc-516185 or m-IgG λ BP-PE: sc-516186 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Syntaxin 1 (SP5): sc-65509. Western blot analysis of Syntaxin 1 expression in rat brain (A) and human cerebral cortex (B) tissue extracts. Detection reagent used: m-IgG λ BP-HRP (Cruz Marker): sc-516132-CM.



Syntaxin 1 (SP5): sc-65509. Western blot analysis of Syntaxin 1 expression in PC-12 (A) and SH-SY5Y (B) whole cell lysates.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.



See **Syntaxin 1 (HPC-1): sc-12736** for Syntaxin 1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.