SYSY Antibodies

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Syntaxin1B

Cat.No. 110 402; Polyclonal rabbit antibody, 200 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	200 µl antiserum, lyophilized. For **reconstitution** add 200 µl H_2O, then aliquot and store at -20°C until use. Antibodies should be stored at +4°C when still lyophilized. Do not freeze! For detailed information, see back of the data sheet.
Applications	**WB**: 1 : 1000 (AP staining) **IP**: yes **ICC**: 1 : 100 up to 1 : 1000 **IHC**: 1 : 1000 **IHC-P (FFPE)**: 1 : 500
Immunogen	Synthetic peptide corresponding to AA 171 to 187 from rat Syntaxin1B (UniProt Id: P61265)
Reactivity	Reacts with: human (P61266), rat (P61265), mouse (P61264), hamster, cow, pig, chicken, zebrafish. Other species not tested yet.
Specificity	Specific for syntaxin 1B, no cross reactivity to syntaxin 1A. K.O. validated PubMed: 26203110
Matching control	110-1BP

TO BE USED IN VITRO / FOR RESEARCH ONLY
NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

Background

Syntaxin 1, also known as **p35**, is a small integral membrane protein that is abundantly expressed in neurons and neuroendocrine cells. It was initially discovered as HPC-1. Syntaxin 1 is an essential component of the exocytotic fusion machine and interacts with several other proteins important for synaptic function, including its partners in the fusion complex synaptobrevin, SNAP 25, α-SNAP, synaptotagmin 1, Munc 18/n-Sec1 and Ca^{2+}-channels.
Syntaxin 1 is localized primarily to the neuronal plasmalemma and is concentrated in synapses where pools of the protein are also present on recycling organelles including synaptic vesicles. It is the main target of one of the Botulinum neurotoxins BoNT/C1 which, however, cannot cleave the protein when complexed with its partner proteins in the fusion complex.

Selected References for 110 402

Syntabulin regulates neuronal excitation/inhibition balance and epileptic seizures by transporting syntaxin 1B.
Ke P, Gu J, Liu J, Liu Y, Tian X, Ma Y, Meng Y, Xiao F
Cell death discovery (2023) 91: 187. . **WB, IP, ICC; tested species: mouse**

Retinal pigment epithelial cells exhibit unique expression and localization of plasma membrane syntaxins which may contribute to their trafficking phenotype.
Low SH, Marmorstein LY, Miura M, Li X, Kudo N, Marmorstein AD, Weimbs T
Journal of cell science (2002) 115Pt 23: 4545-53. . **WB, IHC**

SNAP23 deficiency causes severe brain dysplasia through the loss of radial glial cell polarity.
Kunii M, Noguchi Y, Yoshimura SI, Kanda S, Iwano T, Avriyanti E, Atik N, Sato T, Sato K, Ogawa M, Harada A, et al.
The Journal of cell biology (2021) 2201: . . **ICC, IHC; KD verified; tested species: mouse**

Pulse-Chase Proteomics of the App Knockin Mouse Models of Alzheimer's Disease Reveals that Synaptic Dysfunction Originates in Presynaptic Terminals.
Hark TJ, Rao NR, Castillon C, Basta T, Smukowski S, Bao H, Upadhyay A, Bomba-Warczak E, Nomura T, O'Toole ET, Morgan GP, et al.
Cell systems (2020) : . . **WB, IHC; tested species: mouse**

Syntaxin 1B is important for mouse postnatal survival and proper synaptic function at the mouse neuromuscular junctions.
Wu YJ, Tejero R, Arancillo M, Vardar G, Korotkova T, Kintscher M, Schmitz D, Ponomarenko A, Tabares L, Rosenmund C
Journal of neurophysiology (2015) 1144: 2404-17. . **WB, IHC; KO verified**

How pig sperm prepares to fertilize: stable acrosome docking to the plasma membrane.
Tsai PS, Garcia-Gil N, van Haeften T, Gadella BM
PloS one (2010) 56: e11204. . **WB, IP**

Synapsin-dependent reserve pool of synaptic vesicles supports replenishment of the readily releasable pool under intense synaptic transmission.
Vasileva M, Horstmann H, Geumann C, Gitler D, Kuner T
The European journal of neuroscience (2012) 368: 3005-20. . **ELISA**

Analysis of the neuromuscular deficits caused by STAM1 deficiency.
McLean JW, VanHart M, McWilliams MP, Farmer CB, Crossman DK, Cowell RM, Wilson JA, Wilson SM
Current research in neurobiology (2024) 7: 100138. . **WB; tested species: mouse**

Palmitoylation is required for Sept8-204 and Sept5 to form vesicle-like structure and colocalize with synaptophysin.
Liu H, Tan R, Tong J, Wen S, Wu C, Rao M, Zhu J, Qi S, Kong E
Journal of cellular biochemistry (2024) : . . **WB; tested species: mouse**

Reduced synaptic proteins and SNARE complexes in Down syndrome with Alzheimer's disease and the Dp16 mouse Down syndrome model: Impact of APP gene dose.
Chen XQ, Zuo X, Becker A, Head E, Mobley WC
Alzheimer's & dementia : the journal of the Alzheimer's Association (2022) : . . **WB; tested species: human,mouse**

Access the online factsheet including applicable protocols at https://sysy.com/product/110402 or scan the QR-code.

FAQ - How should I store my antibody?

Shipping Conditions

- All SYSY antibodies and control proteins/peptides are shipped lyophilized (vacuum freeze-dried). In this form, they remain stable without loss of quality at ambient temperatures for several weeks.

Storage of Sealed Vials after Delivery

- **Unlabeled** and **biotin-labeled antibodies** and **control proteins** should be stored at **4°C** before reconstitution. **Do not freeze lyophilized antibodies**. Temperatures below 0°C may impair performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long-term storage of lyophilized fluorophore-conjugates may cause aggregation.
- **Control peptides** should be stored at -20°C before reconstitution.

Long Term Storage after Reconstitution (General Considerations)

- **Do not use frost-free ("no-frost") freezers.** These units periodically warm to remove ice buildup, causing freeze–thaw cycles that can damage antibodies.
- Store vials in areas with minimal temperature fluctuation - preferably toward the back of the freezer, not on the door.
- Aliquot reconstituted antibodies and store at –20°C to –80°C.
- Avoid very small aliquots (<20 µL), as evaporation and adsorption to tube surfaces can reduce antibody concentration and activity.
- Use the smallest practical storage vial to minimize surface area.
- Adding glycerol to a final concentration of 50% prevents freezing at -20°C, allowing storage in liquid form and effectively avoiding freeze–thaw cycles.

Product Specific Hints for Storage

Control proteins / peptides

- Store at -20°C to -80°C

Monoclonal Antibodies

- **Ascites and hybridoma supernatant:** Store at -20°C to -80°C
  Prolonged storage at 4°C is not recommended, as proteases present in ascites may degrade antibodies.
- **Purified IgG:** Store at -20°C to -80°C
  Adding a carrier protein (e.g., BSA) enhances long-term stability.
  Many SYSY antibodies already contain carrier proteins - refer to the respective datasheet for details.

Polyclonal Antibodies

- **Crude antisera:** Can be stored at 4°C with antimicrobials added, but -20°C to -80°C is preferred
- **Affinity-purified antibodies:** Less stable than antisera; store at -20°C to -80°C
  Adding a carrier protein such as BSA improves long-term stability.
  Most SYSY antibodies already contain carrier proteins - refer to the respective datasheet for details.

Fluorescence-labeled Antibodies

- Store as a liquid with 1:1 (v/v) glycerol at -20°C, and protect from light exposure

Avoid repeated freeze-thaw cycles for all antibodies!

FAQ - How should I reconstitute my antibody?

Reconstitution

- All purified SYSY antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the volume of deionized water specified in the corresponding datasheet. If a larger final volume is desired, first add the recommended amount of water, then adjust with PBS and, if needed, add a stabilizing carrier protein (e.g., BSA) to a final concentration of 2%. Some SYSY antibodies already contain albumin; please take this into account before adding additional carrier protein.

For complete reconstitution, carefully remove the vial cap. After adding water, briefly vortex the solution. To collect the liquid at the bottom of the vial, place the vial inside a 50 ml centrifuge tube padded with paper and centrifuge briefly.

- If desired, small amounts of azide or thimerosal may be added to prevent microbial growth. This is particularly recommended when storing an aliquot at 4°C.
- After reconstitution of fluorescence-labeled antibodies, add glycerol 1:1 (v/v) to achieve a final concentration of 50%. This prevents freezing at –20°C and keeps the antibody in liquid form, effectively avoiding freeze–thaw cycles.
- Glycerol may also be added to unlabeled primary antibodies as a general measure to prevent freeze–thaw damage.
- For further guidance, please refer to our **storage tips** and recommendations for reconstituted antibodies, control peptides, and control proteins.