SYSY Antibodies

Rudolf-Wissell-Str. 28a
37079 Göttingen, Germany
Phone: +49 551-50556-0
Fax: +49 551-50556-384
E-mail: sales@sysy.com
Web: www.sysy.com

Syntaxin1B

Cat.No. 110 403; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Albumin was added for stabilization. For **reconstitution** add 50 µl H_2O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C to -80°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**: 1 : 500 **ELISA**: yes (see remarks)
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: 32572454
Matching control	110-1BP
Remarks	**ELISA**: Suitable as detector antibody for sandwich-ELISA with cat. no. 110 011 as capture antibodies. The ELISA-protocol for membrane proteins is recommended.

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 110 403

Titration of Syntaxin1 in mammalian synapses reveals multiple roles in vesicle docking, priming, and release probability.
Arancillo M, Min SW, Gerber S, Münster-Wandowski A, Wu YJ, Herman M, Trimbuch T, Rah JC, Ahnert-Hilger G, Riedel D, Südhof TC, et al.
The Journal of neuroscience : the official journal of the Society for Neuroscience (2013) 3342: 16698-714. . **WB, ICC**

Epilepsy-causing STX1B mutations translate altered protein functions into distinct phenotypes in mouse neurons.
Vardar G, Gerth F, Schmitt XJ, Rautenstrauch P, Trimbuch T, Schubert J, Lerche H, Rosenmund C, Freund C
Brain : a journal of neurology (2020) : . . **WB, ICC; KO verified; tested species: mouse**

The proteomic landscape of synaptic diversity across brain regions and cell types.
van Oostrum M, Blok TM, Giandomenico SL, Tom Dieck S, Tushev G, Fürst N, Langer JD, Schuman EM
Cell (2023) 18624: 5411-5427.e23. . **WB; tested species: mouse**

Changes in synaptic proteins precede neurodegeneration markers in preclinical Alzheimer's disease cerebrospinal fluid.
Lleó A, Núñez-Llaves R, Alcolea D, Chiva C, Balateu-Paños D, Colom-Cadena M, Gomez-Giro G, Muñoz L, Querol-Vilaseca M, Pegueroles J, Rami L, et al.
Molecular & cellular proteomics : MCP (2019) : . . **WB; tested species: human**

The neural cell adhesion molecule promotes maturation of the presynaptic endocytotic machinery by switching synaptic vesicle recycling from adaptor protein 3 (AP-3)- to AP-2-dependent mechanisms.
Shetty A, Sytnyk V, Leshchyns'ka I, Puchkov D, Haucke V, Schachner M
The Journal of neuroscience : the official journal of the Society for Neuroscience (2013) 3342: 16828-45. . **WB**

Point mutation in syntaxin-1A causes abnormal vesicle recycling, behaviors, and short term plasticity.
Watanabe Y, Katayama N, Takeuchi K, Togano T, Itoh R, Sato M, Yamazaki M, Abe M, Sato T, Oda K, Yokoyama M, et al.
The Journal of biological chemistry (2013) 28848: 34906-19. . **WB; tested species: mouse**

Selected General References

Mechanisms of synaptic vesicle exocytosis.
Lin RC, Scheller RH
Annual review of cell and developmental biology (2000) 16: 19-49. .

Phosphorylated syntaxin 1 is localized to discrete domains along a subset of axons.
Foletti DL, Lin R, Finley MA, Scheller RH
The Journal of neuroscience : the official journal of the Society for Neuroscience (2000) 2012: 4535-44. .

Membrane fusion and exocytosis.
Jahn R, Südhof TC
Annual review of biochemistry (1999) 68: 863-911. .

The synaptic vesicle cycle: a cascade of protein-protein interactions.
Südhof TC
Nature (1995) 3756533: 645-53. .

Access the online factsheet including applicable protocols at https://sysy.com/product/110403 or scan the QR-code.

FAQ - How should I store my antibody?

Shipping Conditions

- All our antibodies and control proteins / peptides are shipped lyophilized (vacuum freeze-dried) and are stable in this form 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. **They must not be stored in the freezer when still lyophilized!** Temperatures below zero may cause loss of performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long term storage (several months) may lead to aggregation.
- **Control peptides** should be kept at -20°C before reconstitution.

Long Term Storage after Reconstitution (General Considerations)

- The storage freezer must not be of the frost-free variety ("no-frost freezer"). This cycle between freezing and thawing (to reduce frost-build-up), which is exactly what should be avoided. For the same reason, antibody vials should be placed in an area of the freezer that has minimal temperature fluctuations, for instance towards the back rather than on a door shelf.
- Aliquot the antibody and store frozen (-20°C to -80°C). Avoid very small aliquots (below 20 µl) and use the smallest storage vial or tube possible. The smaller the aliquot, the more the stock concentration is affected by evaporation and adsorption of the antibody to the surface of the storage vial or tube. Adsorption of the antibody to the surface leads to a substantial loss of activity.
- The addition of glycerol to a final concentration of 50% lowers the freezing point of your stock and keeps your antibody at -20°C in liquid state. This efficiently avoids freeze and thaw cycles.

Product Specific Hints for Storage

Control proteins / peptides

- Store at -20°C to -80°C.

Monoclonal Antibodies

- **Ascites** and **hybridoma supernatant** should be stored at -20°C up to -80°C. **Prolonged storage at 4°C is not recommended!** Unlike serum, ascites may contain proteases that will degrade the antibodies.
- **Purified IgG** should be stored at -20°C up to -80°C. Adding a carrier protein like BSA will increase long term stability. Many of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Polyclonal Antibodies

- **Crude antisera**: With anti-microbials added, they may be stored at 4°C. However, frozen storage (-20°C up to -80°C) is preferable.
- **Affinity purified antibodies**: Less robust than antisera. Storage at -20°C up to -80°C is recommended. Adding a carrier protein like BSA will increase long term stability. Most of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Fluorescence-labeled Antibodies

- Store as a liquid with 1 : 1 (v/v) glycerol at -20°C. Protect these antibodies from light exposure.

Avoid repeated freeze-thaw cycles for all antibodies!

FAQ - How should I reconstitute my antibody?

Reconstitution

- All our purified antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the amount of deionized water given in the respective datasheet. If higher volumes are preferred, add water as mentioned above and then the desired amount of PBS and a stabilizing carrier protein (e.g. BSA) to a final concentration of 2%. Some of our antibodies already contain albumin. Take this into account when adding more carrier protein.
  For complete reconstitution, carefully remove the lid. After adding water, briefly vortex the solution. You can spin down the liquid by placing the vial into a 50 ml centrifugation tube filled with paper.
- If desired, add small amounts of azide or thimerosal to prevent microbial growth. This is especially recommended if you want to keep an aliquot a 4°C.
- After reconstitution of fluorescence-labeled antibodies, add 1 : 1 (v/v) glycerol to a final concentration of 50%. This lowers the freezing point of your stock and keeps your antibody in liquid state at -20°C.
- Glycerol may also be added to unlabeled primary antibodies. It is a suitable way to avoid freeze-thaw cycles.
- Please refer to our **tips and hints for subsequent storage** of reconstituted antibodies and control peptides and proteins.