SYSY Antibodies

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Syntaxin16

Cat.No. 110 162; 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 up to 1 : 5000 (AP staining) **IP**: not recommended **ICC**: 1 : 100 up to 1 : 500 **IHC**: external data (see remarks) **IHC-P (FFPE)**: 1 : 2000
Immunogen	Recombinant protein corresponding to AA 1 to 302 from rat Syntaxin16 (UniProt Id: A0A0G2K528)
Reactivity	Reacts with: human (O14662), rat (A0A0G2K528), mouse (Q8BVI5), hamster, rabbit. Other species not tested yet.
Specificity	Recognizes all four isoforms syntaxin 16a, b, c, d.
Matching control	110-16P
Remarks	**IHC**: This antibody has been successfully applied and published for this method by customers (see application-specific references). It has not been validated using our standard protocols.

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

Background

Syntaxin 16, a member of the SNARE family of proteins, localizes to the Golgi stack. It has been shown to be involved in trans-Golgi network trafficking and to interact with VAMP 3, VAMP 4 and VAMP 8.
Four splice variants (syntaxin 16a, b, c, d) have been described, which may have different roles in intracellular trafficking. The splice variant c is the shortest and localizes to the cytoplasm.

Selected References for 110 162

Composition of isolated synaptic boutons reveals the amounts of vesicle trafficking proteins.
Wilhelm BG, Mandad S, Truckenbrodt S, Kröhnert K, Schäfer C, Rammner B, Koo SJ, Claßen GA, Krauss M, Haucke V, Urlaub H, et al.
Science (New York, N.Y.) (2014) 3446187: 1023-8. . **WB, ICC, IHC; tested species: mouse,rat**

Syntaxin 16 regulates lumen formation during epithelial morphogenesis.
Jung JJ, Inamdar SM, Tiwari A, Ye D, Lin F, Choudhury A
PloS one (2013) 84: e61857. . **WB, ICC; KD verified; tested species: rabbit**

Dual roles of the mammalian GARP complex in tethering and SNARE complex assembly at the trans-golgi network.
Pérez-Victoria FJ, Bonifacino JS
Molecular and cellular biology (2009) 2919: 5251-63. . **WB, ICC**

Proteomic analysis reveals the composition of glutamatergic organelles of auditory inner hair cell.
Cepeda AP, Ninov M, Neef J, Parfentev I, Kusch K, Reisinger E, Jahn R, Moser T, Urlaub H
Molecular & cellular proteomics : MCP (2023) : 100704. . **IHC; tested species: mouse**

EHD2 regulates plasma membrane integrity and downstream insulin receptor signalling events.
Neuhaus M, Fryklund C, Taylor H, Borreguero-Muñoz A, Kopietz F, Ardalani H, Rogova O, Stirrat L, Bremner SK, Spégel P, Bryant NJ, et al.
Molecular biology of the cell (2023) : mbcE23030078. . **WB; tested species: mouse**

Phosphorylation of the N-terminus of Syntaxin-16 controls interaction with mVps45 and GLUT4 trafficking in adipocytes.
Bremner SK, Berends R, Kaupisch A, Roccisana J, Sutherland C, Bryant NJ, Gould GW
PeerJ (2023) 11: e15630. . **WB; tested species: human,rat**

Diabetes is accompanied by changes in the levels of proteins involved in endosomal GLUT4 trafficking in obese human skeletal muscle.
Livingstone R, Bryant NJ, Boyle JG, Petrie JR, Gould GW
Endocrinology, diabetes & metabolism (2022) 55: e361. . **WB; tested species: human**

Cardiac SNARE Expression in Health and Disease.
Bowman PRT, Smith GL, Gould GW
Frontiers in endocrinology (2019) 10: 881. . **WB; tested species: mouse**

SNAREs define targeting specificity of trafficking vesicles by combinatorial interaction with tethering factors.
Koike S, Jahn R
Nature communications (2019) 101: 1608. . **WB; tested species: human**

Newly produced synaptic vesicle proteins are preferentially used in synaptic transmission.
Truckenbrodt S, Viplav A, Jähne S, Vogts A, Denker A, Wildhagen H, Fornasiero EF, Rizzoli SO
The EMBO journal (2018) : . . **ICC; tested species: rat**

Glyoxal as an alternative fixative to formaldehyde in immunostaining and super-resolution microscopy.
Richter KN, Revelo NH, Seitz KJ, Helm MS, Sarkar D, Saleeb RS, D'Este E, Eberle J, Wagner E, Vogl C, Lazaro DF, et al.
The EMBO journal (2018) 371: 139-159. . **ICC; tested species: mouse**

Dynamic GLUT4 sorting through a syntaxin-6 compartment in muscle cells is derailed by insulin resistance-causing ceramide.
Foley KP, Klip A
Biology open (2014) 35: 314-25. . **WB**

Access the online factsheet including applicable protocols at https://sysy.com/product/110162 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.