SYSY Antibodies

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Syntaxin4

Cat.No. 110 042; 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**: yes **ICC**: 1 : 100 up to 1 : 500 **IHC**: not recommended (see remarks) **IHC-P (FFPE)**: not tested yet
Immunogen	Recombinant protein corresponding to AA 1 to 273 from rat Syntaxin4 (UniProt Id: Q08850)
Reactivity	Reacts with: human (Q12846), rat (Q08850), mouse (P70452), hamster. Other species not tested yet.
Matching control	110-4P
Remarks	**IHC**: This antibody has been successfully used and published for this application by customers (see application-specific references). It is not compatible with our standard protocols.

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

Background

Syntaxin 4, a member of the SNARE family of proteins, is related to syntaxin 1. Like syntaxin 2 it is predominantly localized to the plasma membrane of a wide variety of cells. Similar to syntaxins 1, 2, and 3, it appears to be involved in the fusion of transport vesicles with the plasma membrane.

Selected References for 110 042

Legionella pneumophila promotes functional interactions between plasma membrane syntaxins and Sec22b.
Arasaki K, Roy CR
Traffic (Copenhagen, Denmark) (2010) 115: 587-600. . **WB, ICC; tested species: human**

Depletion of the membrane-fusion regulator Munc18c attenuates caerulein hyperstimulation-induced pancreatitis.
Dolai S, Liang T, Orabi AI, Xie L, Holmyard D, Javed TA, Fernandez NA, Xie H, Cattral MS, Thurmond DC, Thorn P, et al.
The Journal of biological chemistry (2018) 2937: 2510-2522. . **WB, IP; 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, ICC; tested species: mouse**

Pancreas-specific SNAP23 depletion prevents pancreatitis by attenuating pathological basolateral exocytosis and formation of trypsin-activating autolysosomes.
Dolai S, Takahashi T, Qin T, Liang T, Xie L, Kang F, Miao YF, Xie H, Kang Y, Manuel J, Winter E, et al.
Autophagy (2020) : 1-14. . **WB, IP; tested species: human**

Invasion by activated macrophages requires delivery of nascent MT1-MMP through late endosomes/lysosomes to the cell surface.
Röhl J, West ZE, Rudolph M, Zaharia A, Van Lonkhuyzen D, Hickey DK, Semmler ABT, Murray RZ
Traffic (Copenhagen, Denmark) (2019) : . . **WB, ICC; tested species: mouse**

Insulin stimulates syntaxin4 SNARE complex assembly via a novel regulatory mechanism.
Kioumourtzoglou D, Gould GW, Bryant NJ
Molecular and cellular biology (2014) 347: 1271-9. . **ICC, WB**

Pancreatic acinar cells express vesicle-associated membrane protein 2- and 8-specific populations of zymogen granules with distinct and overlapping roles in secretion.
Weng N, Thomas DD, Groblewski GE
The Journal of biological chemistry (2007) 28213: 9635-45. . **WB, ICC; tested species: rat**

Role of insulin-dependent cortical fodrin/spectrin remodeling in glucose transporter 4 translocation in rat adipocytes.
Liu L, Jedrychowski MP, Gygi SP, Pilch PF
Molecular biology of the cell (2006) 1710: 4249-56. . **ICC, WB; tested species: rat**

Syntaxin 4 is essential for hearing in human and zebrafish.
Schrauwen I, Ghaffar A, Bharadwaj T, Shah K, Rehman S, Acharya A, Liaqat K, Lin NS, Everard JL, Khan A, Ahmed ZM, et al.
Human molecular genetics (2022) : . . **IHC; tested species: mouse**

EFR3 and phosphatidylinositol 4-kinase IIIα regulate insulin-stimulated glucose transport and GLUT4 dispersal in 3T3-L1 adipocytes.
Koester AM, Geiser A, Laidlaw KME, Morris S, Cutiongco MFA, Stirrat L, Gadegaard N, Boles E, Black HL, Bryant NJ, Gould GW, et al.
Bioscience reports (2022) 427: . . **WB; tested species: mouse**

Efficient Cholesterol Transport in Dendritic Cells Defines Optimal Exogenous Antigen Presentation and Toxoplasma gondii Proliferation.
Croce C, Garrido F, Dinamarca S, Santi-Rocca J, Marion S, Blanchard N, Mayorga LS, Cebrian I
Frontiers in cell and developmental biology (2022) 10: 837574. . **ICC; tested species: mouse**

Access the online factsheet including applicable protocols at https://sysy.com/product/110042 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.