

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 ₂ O, 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 IHC: not recommended IHC-P: 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

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, Liaquat 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**

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**

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 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.