SYSY Antibodies

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Syntaxin12/13

Cat.No. 110 132; 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 : 100 up to 1 : 1000 (AP staining) **IP**: yes **ICC**: 1 : 100 up to 1 : 500 **IHC**: 1 : 500 **IHC-P (FFPE)**: 1 : 500
Immunogen	Recombinant protein corresponding to AA 1 to 250 from rat Syntaxin12/13 (UniProt Id: G3V7P1)
Reactivity	Reacts with: human (Q86Y82), rat (G3V7P1), mouse (Q9ER00), hamster, chicken. Other species not tested yet.
Specificity	K.D. validated PubMed: 28202687
Matching control	110-13P

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

Background

Syntaxin 12/13 are orthologues of the same gene whose product is a member of the SNARE family of proteins. It is related to syntaxins 1-4 but is localized predominantly to early endosomes of a wide variety of cells. Syntaxin 12/13 appears to be involved in the recycling of membrane receptors such as the transferrin receptors where it mediates the fusion of endosomal membranes.

Selected References for 110 132

Association of ABCA1 with syntaxin 13 and flotillin-1 and enhanced phagocytosis in tangier cells.
Bared SM, Buechler C, Boettcher A, Dayoub R, Sigruener A, Grandl M, Rudolph C, Dada A, Schmitz G
Molecular biology of the cell (2004) 1512: 5399-407. . **WB, ICC**

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, IHC; tested species: mouse,rat**

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

Salmonella SipA mimics a cognate SNARE for host Syntaxin8 to promote fusion with early endosomes.
Singh PK, Kapoor A, Lomash RM, Kumar K, Kamerkar SC, Pucadyil TJ, Mukhopadhyay A
The Journal of cell biology (2018) : . . **WB, ICC; tested species: human**

Oxidized phagosomal NOX2 complex is replenished from lysosomes.
Dingjan I, Linders PT, van den Bekerom L, Baranov MV, Halder P, Ter Beest M, van den Bogaart G
Journal of cell science (2017) 1307: 1285-1298. . **WB, ICC; KD verified; tested species: human**

Calsyntenin-1 shelters APP from proteolytic processing during anterograde axonal transport.
Steuble M, Diep TM, Schätzle P, Ludwig A, Tagaya M, Kunz B, Sonderegger P
Biology open (2012) 18: 761-74. . **WB, ICC**

GRASP1 Regulates Synaptic Plasticity and Learning through Endosomal Recycling of AMPA Receptors.
Chiu SL, Diering GH, Ye B, Takamiya K, Chen CM, Jiang Y, Niranjan T, Schwartz CE, Wang T, Huganir RL
Neuron (2017) 936: 1405-1419.e8. . **IP; tested species: rat**

Alzheimer's vulnerable brain region relies on a distinct retromer core dedicated to endosomal recycling.
Simoes S, Guo J, Buitrago L, Qureshi YH, Feng X, Kothiya M, Cortes E, Patel V, Kannan S, Kim YH, Chang KT, et al.
Cell reports (2021) 3713: 110182. . **ICC; tested species: mouse**

Multispectral imaging reveals the tissue distribution of tetraspanins in human lymphoid organs.
de Winde CM, Zuidscherwoude M, Vasaturo A, van der Schaaf A, Figdor CG, van Spriel AB
Histochemistry and cell biology (2015) 1442: 133-46. . **ICC**

Molecular anatomy of a trafficking organelle.
Takamori S, Holt M, Stenius K, Lemke EA, Grønborg M, Riedel D, Urlaub H, Schenck S, Brügger B, Ringler P, Müller SA, et al.
Cell (2006) 1274: 831-46. . **WB**

Phosphorylation of synapsin I by cAMP-dependent protein kinase controls synaptic vesicle dynamics in developing neurons.
Bonanomi D, Menegon A, Miccio A, Ferrari G, Corradi A, Kao HT, Benfenati F, Valtorta F
The Journal of neuroscience : the official journal of the Society for Neuroscience (2005) 2532: 7299-308. . **ICC**

Association of gamma-secretase with lipid rafts in post-Golgi and endosome membranes.
Vetrivel KS, Cheng H, Lin W, Sakurai T, Li T, Nukina N, Wong PC, Xu H, Thinakaran G
The Journal of biological chemistry (2004) 27943: 44945-54. . **WB**

Rab3D is not required for exocrine exocytosis but for maintenance of normally sized secretory granules.
Riedel D, Antonin W, Fernandez-Chacon R, Alvarez de Toledo G, Jo T, Geppert M, Valentijn JA, Valentijn K, Jamieson JD, Südhof TC, Jahn R, et al.
Molecular and cellular biology (2002) 2218: 6487-97. . **WB**

Access the online factsheet including applicable protocols at https://sysy.com/product/110132 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.