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**: 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 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.