SYSY Antibodies

Rudolf-Wissell-Str. 28a
37079 Göttingen, Germany
Phone: +49 551-50556-0
Fax: +49 551-50556-384
E-mail: sales@sysy.com
Web: www.sysy.com

Complexin1/2 C-terminus

Cat.No. 122 002; 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 : 10000 (AP staining) (see remarks) **IP**: yes **ICC**: 1 : 1000 **IHC**: 1 : 500 (see remarks) **IHC-P (FFPE)**: 1 : 200
Immunogen	Synthetic peptide corresponding to AA 122 to 134 from human Complexin2 (UniProt Id: Q6PUV4)
Reactivity	Reacts with: human (O14810, Q6PUV4), rat (P63041, P84087), mouse (P63040, P84086), cow, electric ray, rabbit. Other species not tested yet.
Specificity	Recognizes complexin 1 and 2. K.O. validated PubMed: 11163241
Matching control	122-0P
Remarks	**WB**: Due to the small size of this protein, we recommend 12% BIS-TRIS gels with a MES based running buffer. **IHC**: Antigen retrieval with citrate buffer pH 6 is tolerated. For optimal results in retina tissue, follow the retina protocol.

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

Background

Complexins are enriched in neurons where they colocalize with syntaxin 1 and SNAP 25. In addition, complexin **2**, also referred to as **synaphin 1**, is expressed ubiquitously at low levels. Complexins bind weakly to syntaxin 1 alone and not at all to synaptobrevin and SNAP 25, but strongly to the SNAP receptor-core complex composed of these three molecules. They compete with α-SNAP for binding to the core complex but not with other interacting molecules, suggesting that complexins regulate the sequential interactions of α-SNAP and synaptotagmins with the SNAP receptor during exocytosis.
In retinal ribbon synapses complexin 3 and complexin 4 functionally replace complexin **1** (**synaphin 2**) and 2. They have similar biochemical binding properties and are farnesylated at their C-terminus.

Selected References for 122 002

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. . **ICC, IHC; tested species: mouse,rat**

Point mutation in syntaxin-1A causes abnormal vesicle recycling, behaviors, and short term plasticity.
Watanabe Y, Katayama N, Takeuchi K, Togano T, Itoh R, Sato M, Yamazaki M, Abe M, Sato T, Oda K, Yokoyama M, et al.
The Journal of biological chemistry (2013) 28848: 34906-19. . **WB, IP; tested species: mouse**

Complexin 2 modulates vesicle-associated membrane protein (VAMP) 2-regulated zymogen granule exocytosis in pancreatic acini.
Falkowski MA, Thomas DD, Groblewski GE
The Journal of biological chemistry (2010) 28546: 35558-66. . **WB, ICC**

Synaptotagmin 1 clamps synaptic vesicle fusion in mammalian neurons independent of complexin.
Courtney NA, Bao H, Briguglio JS, Chapman ER
Nature communications (2019) 101: 4076. . **WB, ICC; KD verified; tested species: mouse**

Acute Complexin Knockout Abates Spontaneous and Evoked Transmitter Release.
López-Murcia FJ, Reim K, Jahn O, Taschenberger H, Brose N
Cell reports (2019) 2610: 2521-2530.e5. . **WB, ICC; KO verified; tested species: mouse**

miR-135a Regulates Synaptic Transmission and Anxiety-Like Behavior in Amygdala.
Mannironi C, Biundo A, Rajendran S, De Vito F, Saba L, Caioli S, Zona C, Ciotti T, Caristi S, Perlas E, Del Vecchio G, et al.
Molecular neurobiology (2017) : . . **WB, ICC; tested species: mouse**

Complexin stabilizes newly primed synaptic vesicles and prevents their premature fusion at the mouse calyx of held synapse.
Chang S, Reim K, Pedersen M, Neher E, Brose N, Taschenberger H
The Journal of neuroscience : the official journal of the Society for Neuroscience (2015) 3521: 8272-90. . **WB, IHC**

Structurally and functionally unique complexins at retinal ribbon synapses.
Reim K, Wegmeyer H, Brandstätter JH, Xue M, Rosenmund C, Dresbach T, Hofmann K, Brose N
The Journal of cell biology (2005) 1694: 669-80. . **WB, IHC**

Compartmentalization of soluble endocytic proteins in synaptic vesicle clusters by phase separation.
Yoshida T, Takenaka KI, Sakamoto H, Kojima Y, Sakano T, Shibayama K, Nakamura K, Hanawa-Suetsugu K, Mori Y, Hirabayashi Y, Hirose K, et al.
iScience (2023) 266: 106826. . **ICC; tested species: mouse**

α-Synuclein induced cholesterol lowering increases tonic and reduces depolarization-evoked synaptic vesicle recycling and glutamate release.
Lazarevic V, Yang Y, Paslawski W, Svenningsson P
NPJ Parkinson's disease (2022) 81: 71. . **ICC; tested species: mouse**

Access the online factsheet including applicable protocols at https://sysy.com/product/122002 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.