SYSY Antibodies

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Complexin4

Cat.No. 122 402; 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 (AP staining) **IP**: not tested yet **ICC**: not tested yet **IHC**: 1 : 4000 up to 1 : 40000 (see remarks) **IHC-P (FFPE)**: 1 : 200
Immunogen	Recombinant protein corresponding to AA 1 to 160 from mouse Complexin4 (UniProt Id: Q80WM3)
Reactivity	Reacts with: rat (D3ZM85), mouse (Q80WM3). Other species not tested yet.
Specificity	Specific for complexin 4, no cross reaction to other complexins. K.O. validated PubMed: 19386896
Remarks	**IHC**: 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 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 and 2. They have similar biochemical binding properties and are farnesylated at their C-terminus.

Selected References for 122 402

Enrichment and differential targeting of complexins 3 and 4 in ribbon-containing sensory neurons during zebrafish development.
Zanazzi G, Matthews G
Neural development (2010) 5: 24. . **IHC, WB, ICC; tested species: zebrafish**

Aberrant function and structure of retinal ribbon synapses in the absence of complexin 3 and complexin 4.
Reim K, Regus-Leidig H, Ammermüller J, El-Kordi A, Radyushkin K, Ehrenreich H, Brandstätter JH, Brose N
Journal of cell science (2009) 122Pt 9: 1352-61. . **WB, IHC; KO verified; tested species: mouse**

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**

A Mouse Photoreceptor Proteome Resource Identifies PALS2/MPP6 as a Novel Pan-Cone Photoreceptor Marker.
Lux UT, Reim K, Krupp JL, Piepkorn L, Rudashevskaya E, Jahn O, Brandstätter JH
Investigative ophthalmology & visual science (2025) 6615: 44. . **IHC; tested species: mouse**

Light-dependent regulation of neurotransmitter release from rod photoreceptor ribbon synapses involves an interplay of Complexin 4 and Transducin with the SNARE complex.
Lux UT, Meyer J, Jahn O, Davison A, Babai N, Gießl A, Wartenberg A, Sticht H, Brose N, Reim K, Brandstätter JH, et al.
Frontiers in molecular neuroscience (2024) 17: 1308466. . **IHC; tested species: mouse**

The first synapse in vision in the aging mouse retina.
Gierke K, Lux UT, Regus-Leidig H, Brandstätter JH
Frontiers in cellular neuroscience (2023) 17: 1291054. . **IHC; tested species: mouse**

Cell Types and Synapses Expressing the SNARE Complex Regulating Proteins Complexin 1 and Complexin 2 in Mammalian Retina.
Lux UT, Ehrenberg J, Joachimsthaler A, Atorf J, Pircher B, Reim K, Kremers J, Gießl A, Brandstätter JH
International journal of molecular sciences (2021) 2215: . . **IHC; 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**

Calcium channel-dependent molecular maturation of photoreceptor synapses.
Zabouri N, Haverkamp S
PloS one (2013) 85: e63853. . **IHC**

The absence of Complexin 3 and Complexin 4 differentially impacts the ON and OFF pathways in mouse retina.
Landgraf I, Mühlhans J, Dedek K, Reim K, Brandstätter JH, Ammermüller J
The European journal of neuroscience (2012) 364: 2470-81. . **IHC**

Promiscuous interaction of SNAP-25 with all plasma membrane syntaxins in a neuroendocrine cell.
Bajohrs M, Darios F, Peak-Chew SY, Davletov B
The Biochemical journal (2005) 392Pt 2: 283-9. . **WB**

Access the online factsheet including applicable protocols at https://sysy.com/product/122402 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.