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

SynCAM1/2/3

Cat.No. 243 003; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Albumin and azide were added for stabilization. For **reconstitution** add 50 µl H_2O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C to -80°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**: 1 : 100 up to 1 : 500 **IHC**: 1 : 100 up to 1 : 500 **IHC-P (FFPE)**: not tested yet
Immunogen	Synthetic peptide corresponding to AA 436 to 446 from mouse SynCAM1 (UniProt Id: Q8R5M8)
Reactivity	Reacts with: rat (Q6AYP5, Q1WIM2, Q1WIM3), mouse (Q8R5M8, Q8BLQ9, Q99N28). Other species not tested yet.
Specificity	Recognizes synCAM 1, 2, 3 but not 4.
Matching control	243-0P

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

Background

Development of synapses involves transsynaptic interactions of dedicated synaptic adhesion molecules like neuroligins, neurexins and synCAMs (**Syn**aptic **c**ell **a**dhesion **m**olecules). Four SynCAM isoforms have been described so far. All share a common domain structure and contain three extracellular Ig domains, a single transmembrane region, and a short COOH-terminal cytoplasmic tail. **SynCAM 2** has been shown to be associated to myelinated axons and **synCAM 3** can serve as a receptor for herpes viruses.

Selected References for 243 003

A novel synaptic junction preparation for the identification and characterization of cleft proteins.
Burch A, Tao-Cheng JH, Dosemeci A
PloS one (2017) 123: e0174895. . **WB, EM; tested species: rat**

A High-Resolution Method for Quantitative Molecular Analysis of Functionally Characterized Individual Synapses.
Holderith N, Heredi J, Kis V, Nusser Z
Cell reports (2020) 324: 107968. . **IHC; tested species: rat**

1 Hz Low-Frequency Repetitive Transcranial Magnetic Stimulation Ameliorates Epilepsy by Suppressing Interferon-γ Signaling-Dependent Microglial Synaptic Phagocytosis in Mice.
Lin D, Wang D, Xiao N
CNS neuroscience & therapeutics (2026) 326: e70979. . **IHC; tested species: mouse**

Altered expression of synaptic proteins and adhesion molecules in the hippocampus and cortex following the onset of diabetes in nonobese diabetic mice.
Yokokawa T, Kido K, Sato K, Hayashi T, Fujita S
Physiological reports (2023) 118: e15673. . **WB; tested species: mouse**

Haploinsufficiency of the Attention-Deficit/Hyperactivity Disorder Risk Gene St3gal3 in Mice Causes Alterations in Cognition and Expression of Genes Involved in Myelination and Sialylation.
Rivero O, Alhama-Riba J, Ku HP, Fischer M, Ortega G, Álmos P, Diouf D, van den Hove D, Lesch KP
Frontiers in genetics (2021) 12: 688488. . **WB; tested species: mouse**

Molecular profiling of synaptic vesicle docking sites reveals novel proteins but few differences between glutamatergic and GABAergic synapses.
Boyken J, Grønborg M, Riedel D, Urlaub H, Jahn R, Chua JJ
Neuron (2013) 782: 285-97. . **WB**

Selected General References

Aberrations of a cell adhesion molecule CADM4 in renal clear cell carcinoma.
Nagata M et al. Int. J. Cancer (2012) PubMed:21544807

Localization of Cadm2a and Cadm3 proteins during development of the zebrafish nervous system.
Hunter PR et al. J. Comp. Neurol. (2011) PubMed:21456004

The cell adhesion nectin-like molecules (Necl) 1 and 4 suppress the growth and tumorigenic ability of colon cancer cells.
Raveh S et al. J. Cell. Biochem. (2009) PubMed:19565570

The adhesion molecule Necl-3/SynCAM-2 localizes to myelinated axons, binds to oligodendrocytes and promotes cell adhesion.
Pellissier F et al. BMC Neurosci (2007) PubMed:17967169

Nectin-like proteins mediate axon Schwann cell interactions along the internode and are essential for myelination.
Maurel P et al. J. Cell Biol. (2007) PubMed:17724124

SynCAMs organize synapses through heterophilic adhesion.
Fogel AI et al. J. Neurosci. (2007) PubMed:18003830

Access the online factsheet including applicable protocols at https://sysy.com/product/243003 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.