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**: 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**

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

Crystal structure of the V domain of human Nectin-like molecule-1/Syncam3/Tsll1/Igsf4b, a neural tissue-specific immunoglobulin-like cell-cell adhesion molecule.
Dong X et al. J. Biol. Chem. (2006) PubMed:16467305

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 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.