SYSY Antibodies

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NCAM180 (CD56)

Cat.No. 219 017; Monoclonal rat antibody, 100 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized. For **reconstitution** add 100 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 : 200 up to 1 : 500 **IHC**: 1 : 500 **IHC-P**: not tested yet **EM**: yes
Clone	481
Subtype	IgG
Immunogen	Recombinant protein corresponding to AA 1 to 1115 from mouse NCAM180 (UniProt Id: P13595)
Reactivity	Reacts with: rat (P13596), mouse (P13595). Other species not tested yet.
Specificity	Specific for NCAM180. Does not detect NCAM120 and NCAM140.
Remarks	This antibody lacks the Fc region and has to be used like a Fab fragment. Secondary reagents directed exclusively against the Fc region are not recommended.

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

Background

The **n**eural **c**ell **a**dhesion **m**olecule (NCAM) is a cell surface glycoprotein that occurs in several isoforms. It belongs to the immunglobulin superfamily of adhesion molecules and contains several immunglobulin-like domains. The largest, **NCAM 180**, may play an important role in the development and stabilization of cell contacts. It has been shown to accumulate at those sites of contact and at postsynaptic densities.

Selected References for 219 017

Developmentally regulated masking of an intracellular epitope of the 180 kDa isoform of the neural cell adhesion molecule NCAM.
Kramer I, Hall H, Bleistein U, Schachner M
Journal of neuroscience research (1997) 492: 161-75. . **WB, ICC, IHC**

Selective expression of the 180-kD component of the neural cell adhesion molecule N-CAM during development.
Pollerberg EG, Sadoul R, Goridis C, Schachner M
The Journal of cell biology (1985) 1015 Pt 1: 1921-9. . **WB, ICC, IHC**

Immunoelectron microscopic localization of the neural recognition molecules L1, NCAM, and its isoform NCAM180, the NCAM-associated polysialic acid, beta1 integrin and the extracellular matrix molecule tenascin-R in synapses of the adult rat hippocampus.
Schuster T, Krug M, Stalder M, Hackel N, Gerardy-Schahn R, Schachner M
Journal of neurobiology (2001) 492: 142-58. . **EM, IHC**

A multimodal 3D neuro-microphysiological system with neurite-trapping microelectrodes.
Molina-Martínez B, Jentsch LV, Ersoy F, van der Moolen M, Donato S, Ness TV, Heutink P, Jones PD, Cesare P
Biofabrication (2022) 142: . . **ICC; tested species: human**

Selected General References

Increased NCAM-180 immunoreactivity and maintenance of L1 immunoreactivity in injured optic fibers of adult mice.
Becker CG et al. Exp. Neurol. (2001) PubMed:11358457

NCAM 180 in the postnatal development of cat visual cortex: an immunohistochemical study.
Delius JA et al. J. Neurosci. Res. (1997) PubMed:9260737

Access the online factsheet including applicable protocols at https://sysy.com/product/219017 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.