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 (FFPE)**: not tested yet **EM**: external data (see remarks)
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. **EM**: This antibody has been successfully applied and published for this method by customers (see application-specific references).

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.

For more information on protein expression pattern, please refer to the overview image in our SYSY Antibodies ATLAS.

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 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.