SYSY Antibodies

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# **Neuroligin1** extracellular

**Cat.No. 129 003; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)**

## Data Sheet

| | |
|---|---|
| Reconstitution/ Storage | 50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Albumin was 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)<br>**IP**: not tested yet<br>**ICC**: external data (see remarks)<br>**IHC**: not tested yet<br>**IHC-P (FFPE)**: not tested yet<br>**Clarity**: external data (see remarks) |
| Immunogen | Recombinant protein corresponding to AA 46 to 165 from rat Neuroligin1 (UniProt Id: Q62765) |
| Reactivity | Reacts with: rat (Q62765), mouse (Q99K10).<br>No signal: zebrafish.<br>Other species not tested yet. |
| Specificity | K.O. validated |
| Matching control | 129-0P |
| Remarks | **ICC**: This antibody has been successfully used and published for this application by customers (see application-specific references). It is not compatible with our standard protocols.<br>**Clarity**: 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

**Neuroligins** form a family of postsynaptic cell surface molecules that interact with β-neurexins. They are 110-120 kDa polypeptides with homology to acetylcholine esterase. **Neuroligin1** and neuroligin3 are specifically localized to post-synaptic densities of excitatory synapses whereas neuroligin2 is found exclusively on inhibitory synapses.
Mutations in neuroligin3 and neuroligin4 have been implicated with a rare, heritable form of autism.

## Selected References for 129 003

Loss-of-consciousness: sources of GABAergic input to the mesopontine tegmental anesthesia area.
Ibraheem A, Vaso K, Minert A, Yatziv SL, Baron M, Devor M
Frontiers in neuroscience (2025) 19: 1594984. . **CLARITY; tested species: rat**

Hemisynapse Formation Between Target Astrocytes and Cortical Neuron Axons in vitro.
Teng Z, Gottmann K
Frontiers in molecular neuroscience (2022) 15: 829506. . **ICC; tested species: mouse**

Overexpression of the cell adhesion protein neuroligin-1 induces learning deficits and impairs synaptic plasticity by altering the ratio of excitation to inhibition in the hippocampus.
Dahlhaus R, Hines RM, Eadie BD, Kannangara TS, Hines DJ, Brown CE, Christie BR, El-Husseini A
Hippocampus (2010) 202: 305-22. . **WB**

A delay in vesicle endocytosis by a C-terminal fragment of N-cadherin enhances Aβ synaptotoxicity.
Teng Z, Kartalou GI, Dagar S, Fraering PC, Lessmann V, Gottmann K
Cell death discovery (2023) 91: 444. . **WB; tested species: mouse**

Dysregulation of AMPA Receptor Trafficking and Intracellular Vesicular Sorting in the Prefrontal Cortex of Dopamine Transporter Knock-Out Rats.
Targa G, Mottarlini F, Rizzi B, Leo D, Caffino L, Fumagalli F
Biomolecules (2023) 133: . . **WB; tested species: rat**

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; tested species: rat**

## Selected General References

Neuroligin 1 is a postsynaptic cell-adhesion molecule of excitatory synapses.
Song JY et al. Proc. Natl. Acad. Sci. U.S.A. (1999) PubMed:9927700

Activity-dependent validation of excitatory versus inhibitory synapses by neuroligin-1 versus neuroligin-2.
Chubykin AA et al. Neuron (2007) PubMed:17582332

Dissection of synapse induction by neuroligins: effect of a neuroligin mutation associated with autism.
Chubykin AA et al. J. Biol. Chem. (2005) PubMed:15797875

Neuroligin 2 is exclusively localized to inhibitory synapses.
Varoqueaux F et al. Eur. J. Cell Biol. (2004) PubMed:15540461

Synaptic targeting of neuroligin is independent of neurexin and SAP90/PSD95 binding.
Dresbach T et al. Mol. Cell. Neurosci. (2004) PubMed:15519238

The making of neurexins.
Missler M et al. J. Neurochem. (1998) PubMed:9751164

Structures, alternative splicing, and neurexin binding of multiple neuroligins.
Ichtchenko K et al. J. Biol. Chem. (1996) PubMed:8576240

Access the online factsheet including applicable protocols at https://sysy.com/product/129003 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.