SYSY Antibodies

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Neuroligin2

Cat.No. 129 202; Polyclonal rabbit antibody, 200 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	200 µl antiserum, lyophilized. For **reconstitution** add 200 µl H_2O, then aliquot and store at -20°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**: not recommended (see remarks) **IHC**: not recommended **IHC-P (FFPE)**: not tested yet
Immunogen	Synthetic peptide corresponding to AA 732 to 749 and 750 to 767 from rat Neuroligin2 (UniProt Id: Q62888)
Reactivity	Reacts with: human (Q8NFZ4), rat (Q62888), mouse (Q69ZK9), monkey, ape, cow. Other species not tested yet.
Specificity	K.O. validated
Remarks	**ICC**: The recombinant antibody (cat.no. 129 508) is recommended for ICC.

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 129 202

EphB2 receptor tyrosine kinase-mediated excitatory synaptic functions are negatively modulated by MDGA2.
Kim H, Jeon Y, Kim S, Guo Y, Kim D, Jang G, Brasch J, Um JW, Ko J
Progress in neurobiology (2025) 250: 102772. . **WB, IP, ICC; tested species: mouse,human**

Autism-associated ARHGEF9 variants impair GABAergic synapses and ultrasonic communication by reducing gephyrin phosphorylation.
Jung H, Kim B, Jang G, Lee H, Kim Y, Kim H, Lee HJ, Kim D, Yang Y, Jeong WC, Kim S, et al.
Molecular psychiatry (2025) : . . **WB, ICC; tested species: human,mouse**

PSD-95 deficiency alters GABAergic inhibition in the prefrontal cortex.
McEachern EP, Coley AA, Yang SS, Gao WJ
Neuropharmacology (2020) 179: 108277. . **WB, IP; tested species: mouse**

GARLH regulates neuroligin preference for excitatory versus inhibitory synapses.
Yamasaki T, Konno K, Krueger-Burg D, Noam Y, Chaudhury NH, Morimoto-Tomita M, Salm EJ, Watanabe M, Brose N, Tomita S
The Journal of cell biology (2026) 2252: . . **WB; tested species: mouse**

Bazedoxifene reverses sexually dimorphic autistic-like abnormalities in biallelic MDGA1-mutant mice.
Kim S, Kim H, Pelayo JP, Alvarez S, Jang G, Kim J, Kim B, Hoelscher VM, Calleja-Pérez B, Jung H, Yang Y, et al.
EMBO molecular medicine (2026) : . . **WB; tested species: mouse**

MDGAs perform activity-dependent synapse type-specific suppression via distinct extracellular mechanisms.
Kim S, Jang G, Kim H, Lim D, Han KA, Um JW, Ko J
Proceedings of the National Academy of Sciences of the United States of America (2024) 12126: e2322978121. . **WB; tested species: mouse**

Phosphorylation of neuroligin-2 by PKA regulates its cell surface abundance and synaptic stabilization.
Halff EF, Hannan S, Kwanthongdee J, Lesept F, Smart TG, Kittler JT
Science signaling (2022) 15739: eabg2505. . **WB; tested species: rat**

Elevated protein synthesis in microglia causes autism-like synaptic and behavioral aberrations.
Xu ZX, Kim GH, Tan JW, Riso AE, Sun Y, Xu EY, Liao GY, Xu H, Lee SH, Do NY, Lee CH, et al.
Nature communications (2020) 111: 1797. . **WB; tested species: mouse**

Chemico-genetic discovery of astrocytic control of inhibition in vivo.
Takano T, Wallace JT, Baldwin KT, Purkey AM, Uezu A, Courtland JL, Soderblom EJ, Shimogori T, Maness PF, Eroglu C, Soderling SH, et al.
Nature (2020) : . . **WB; tested species: mouse**

LAR-RPTPs Directly Interact with Neurexins to Coordinate Bidirectional Assembly of Molecular Machineries.
Han KA, Kim YJ, Yoon TH, Kim H, Bae S, Um JW, Choi SY, Ko J
The Journal of neuroscience : the official journal of the Society for Neuroscience (2020) : . . **WB; tested species: rat**

A sex difference in the response of the rodent postsynaptic density to synGAP haploinsufficiency.
Mastro TL, Preza A, Basu S, Chattarji S, Till SM, Kind PC, Kennedy MB
eLife (2020) 9: . . **WB; tested species: rat**

SNX27-Mediated Recycling of Neuroligin-2 Regulates Inhibitory Signaling.
Halff EF, Szulc BR, Lesept F, Kittler JT
Cell reports (2019) 299: 2599-2607.e6. . **WB; tested species: rat**

Access the online factsheet including applicable protocols at https://sysy.com/product/129202 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.