SYSY Antibodies

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Neuroligin3

Cat.No. 129 113; 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**: yes **ICC**: 1 : 500 **IHC**: not tested yet **IHC-P**: 1 : 1000 up to 1 : 2500
Immunogen	Synthetic peptide corresponding to residues near the carboxy terminus of mouse Neuroligin 3 (UniProt Id: Q8BYM5)
Reactivity	Reacts with: rat (Q62889), mouse (Q8BYM5). No signal: zebrafish. Other species not tested yet. Predicted to cross-react with human (Q9NZ94) due to high sequence homology.
Specificity	K.O. validated PubMed: 31002480
Matching control	129-3P

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

Background

Neuroligins form a family of post-synaptic 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 129 113

A unique intracellular tyrosine in neuroligin-1 regulates AMPA receptor recruitment during synapse differentiation and potentiation.
Letellier M, Szíber Z, Chamma I, Saphy C, Papasideri I, Tessier B, Sainlos M, Czöndör K, Thoumine O
Nature communications (2018) 91: 3979. . **WB, IP; tested species: rat**

Neuroligin-3 and Neuroligin-4X form Nanoscopic clusters and regulate growth cone organization and size.
Gatford NJF, Deans PJM, Duarte RRR, Chennell G, Sellers KJ, Raval P, Srivastava DP
Human molecular genetics (2021) : . . **WB, ICC; tested species: mouse**

Colonic dilation and altered ex vivo gastrointestinal motility in the neuroligin-3 knockout mouse.
Leembruggen AJL, Balasuriya GK, Zhang J, Schokman S, Swiderski K, Bornstein JC, Nithianantharajah J, Hill-Yardin EL
Autism research : official journal of the International Society for Autism Research (2019) : . . **WB, IP; KO verified; tested species: mouse**

Impairment of Group I Metabotropic Glutamate Receptors in the Dorsal Striatum of the R451C-Neuroligin 3 Mouse Model of Autism Spectrum Disorder.
Meringolo M, Montanari M, D'Antoni S, Martella G, El Atiallah I, Ponterio G, Tassone A, Reverte I, Caprioli D, Strimpakos G, Pieroni L, et al.
Journal of neurochemistry (2025) 16910: e70253. . **WB; tested species: mouse**

A critical role of Neuroligin 2 C-terminus in OCD and social behavior.
Pandey S, Ostergren S, Li J, Peng S, Wang G, Tian Q, Dong L, Lu W
The Journal of neuroscience : the official journal of the Society for Neuroscience (2025) 4519: . . **WB; tested species: mouse**

Convergent depression of activity-dependent bulk endocytosis in rodent models of autism spectrum disorder.
Bonnycastle K, Nawaz MS, Kind PC, Cousin MA
Molecular autism (2025) 161: 26. . **WB; KO verified; tested species: rat**

Key roles of C2/GAP domains in SYNGAP1-related pathophysiology.
Katsanevaki D, Till SM, Buller-Peralta I, Nawaz MS, Louros SR, Kapgal V, Tiwari S, Walsh D, Anstey NJ, Petrović NG, Cormack A, et al.
Cell reports (2024) 439: 114733. . **WB; tested species: rat**

TSPAN5 Enriched Microdomains Provide a Platform for Dendritic Spine Maturation through Neuroligin-1 Clustering.
Moretto E, Longatti A, Murru L, Chamma I, Sessa A, Zapata J, Hosy E, Sainlos M, Saint-Pol J, Rubinstein E, Choquet D, et al.
Cell reports (2019) 295: 1130-1146.e8. . **WB; tested species: mouse**

Neuroligin 1, 2, and 3 Regulation at the Synapse: FMRP-Dependent Translation and Activity-Induced Proteolytic Cleavage.
Chmielewska JJ, Kuzniewska B, Milek J, Urbanska K, Dziembowska M
Molecular neurobiology (2018) : . . **WB; tested species: mouse**

UPR activation specifically modulates glutamate neurotransmission in the cerebellum of a mouse model of autism.
Trobiani L, Favaloro FL, Di Castro MA, Di Mattia M, Cariello M, Miranda E, Canterini S, De Stefano ME, Comoletti D, Limatola C, De Jaco A, et al.
Neurobiology of disease (2018) : . . **WB; tested species: mouse**

Isoform-specific cleavage of neuroligin-3 reduces synapse strength.
Bemben MA, Nguyen TA, Li Y, Wang T, Nicoll RA, Roche KW
Molecular psychiatry (2018) : . . **WB; tested species: rat**

Access the online factsheet including applicable protocols at https://sysy.com/product/129113 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.