SYSY Antibodies

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Neuroligin2

Cat.No. 129 203; 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) (see remarks) **IP**: yes **ICC**: 1 : 500 **IHC**: yes **IHC-P (FFPE)**: not tested yet **EM**: external data (see remarks) **ELISA**: (see remarks)
Immunogen	Synthetic peptide corresponding to AA 732 to 749 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	**WB**: The crude antiserum (cat. no. 129 202) produces stronger signals. **EM**: This antibody has been successfully applied and published for this method by customers (see application-specific references). **ELISA**: The ELISA-protocol for membrane proteins is required.

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 129 203

Differential regulation of neurexin at glutamatergic and GABAergic synapses.
Pregno G, Frola E, Graziano S, Patrizi A, Bussolino F, Arese M, Sassoè-Pognetto M
Frontiers in cellular neuroscience (2013) 7: 35. . **WB, IP**

Impaired Amino Acid Transport at the Blood Brain Barrier Is a Cause of Autism Spectrum Disorder.
Tărlungeanu DC, Deliu E, Dotter CP, Kara M, Janiesch PC, Scalise M, Galluccio M, Tesulov M, Morelli E, Sonmez FM, Bilguvar K, et al.
Cell (2016) 1676: 1481-1494.e18. . **WB, IHC; tested species: mouse**

Gephyrin regulates GABAergic and glutamatergic synaptic transmission in hippocampal cell cultures.
Varley ZK, Pizzarelli R, Antonelli R, Stancheva SH, Kneussel M, Cherubini E, Zacchi P
The Journal of biological chemistry (2011) 28623: 20942-51. . **WB, ICC**

Adeno-Associated Virus Vector-Mediated Expression of Neuroligin 2 in the Mouse Hippocampus Attenuates the Progression of Pentylenetetrazol-Induced Seizures.
Tokutake T, Hara A, Murayama A, Mitsuda Y, Yokose J, Yano Y, Shigetsura Y, Ito M, Takino N, Kumagai S, Shimazaki K, et al.
The journal of gene medicine (2026) 2810: e70116. . **WB, IHC; tested species: mouse**

Myosin XVI Regulates Actin Cytoskeleton Dynamics in Dendritic Spines of Purkinje Cells and Affects Presynaptic Organization.
Roesler MK, Lombino FL, Freitag S, Schweizer M, Hermans-Borgmeyer I, Schwarz JR, Kneussel M, Wagner W
Frontiers in cellular neuroscience (2019) 13: 330. . **WB, IHC; tested species: mouse**

The effects of early life stress on the excitatory/inhibitory balance of the medial prefrontal cortex.
Ohta KI, Suzuki S, Warita K, Sumitani K, Tenkumo C, Ozawa T, Ujihara H, Kusaka T, Miki T
Behavioural brain research (2019) : 112306. . **WB, IHC; tested species: rat**

Distinct axo-somato-dendritic distributions of three potassium channels in CA1 hippocampal pyramidal cells.
Kirizs T, Kerti-Szigeti K, Lorincz A, Nusser Z
The European journal of neuroscience (2014) 3911: 1771-83. . **EM; tested species: rat**

Early-life social enrichment induces divergent cognitive-emotional aging along with dorsal hippocampal VGluT1 and glial alterations.
Ma XX, Zheng JY, Yao XD, Yu YJ, Wang XD, Su YA, Li JT, Si TM
Neurobiology of aging (2026) 166: 69-81. . **WB; tested species: mouse**

Early-life stress of limited bedding/nesting material induced recognition memory loss and decreased hippocampal VGluT1 and nectin3 levels in aged male mice.
He ZC, Yu YJ, Wang T, Yin HR, Sun YX, Liu X, Xie XM, Wang HL, Su YA, Li JT, Si TM, et al.
Pharmacology, biochemistry, and behavior (2025) 249: 173980. . **WB; tested species: mouse**

Biochemical Properties of Synaptic Proteins Are Dependent on Tissue Preparation: NMDA Receptor Solubility Is Regulated by the C-Terminal Tail.
Won S, Sweeney CL, Roche KW
Journal of cellular biochemistry (2024) : e30664. . **WB; tested species: human,mouse,rat**

Upregulation of Spinal MDGA1 in Rats After Nerve Injury Alters Interactions Between Neuroligin-2 and Postsynaptic Scaffolding Proteins and Increases GluR1 Subunit Surface Delivery in the Spinal Cord Dorsal Horn.
Li HL, Guo RJ, Ai ZR, Han S, Guan Y, Li JF, Wang Y
Neurochemical research (2024) 492: 507-518. . **WB; tested species: rat**

Access the online factsheet including applicable protocols at https://sysy.com/product/129203 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.