SYSY Antibodies

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Neurexin1

Cat.No. 175 103; 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 : 500 up to 1 : 1000 (AP staining) (see remarks) **ICC**: not recommended **IHC**: not recommended **IHC-P (FFPE)**: not tested yet
Immunogen	Recombinant protein corresponding to AA 1328 to 1421 from rat Neurexin1 (UniProt Id: Q63372)
Reactivity	Reacts with: rat (Q63372), mouse (Q9CS84). Other species not tested yet.
Specificity	Specific for neurexin 1. The epitope is present in α- and β-neurexin 1. K.O. validated PubMed: 40234684
Remarks	**WB**: To avoid protein aggregation, do not heat samples for SDS-PAGE. Non-boiled samples yield stronger signals.

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

Background

α- and β-**neurexins** are single pass transmembrane proteins with a short cytoplasmic C-terminus and a long extracellular N-terminal part. In α-neurexins the extracellular sequence is substantially longer than in β-neurexins. Alternative splicing of the N-terminal part even confers more complexity to this protein family suggesting distinct binding partners for the extracellular regions. In contrast, the C-termini are highly conserved in the different isoforms and splice-variants and they share overlapping cytosolic binding partners.
Neurexins are receptor like molecules that form heterologous cell contacts with post-synaptic cell surface proteins at synaptic connections (e.g. β-neurexins with neuroligins). They also serve as receptors for the black widow toxin α-latrotoxin which induces neurotransmitter release.

Selected References for 175 103

Targeted splicing approach for alleviation of a neurexin 1 haploinsufficiency model.
Lu H, Roddick KM, Ge Y, Zuo L, Zhang P, Lam O, Marsh K, Wong ROL, Brown RE, Craig AM
Molecular psychiatry (2025) 309: 4353-4363. . **WB, IP; KO verified; 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; KD verified; tested species: rat**

Neurexin-2: An inhibitory neurexin that restricts excitatory synapse formation in the hippocampus.
Lin PY, Chen LY, Jiang M, Trotter JH, Seigneur E, Südhof TC
Science advances (2023) 91: eadd8856. . **WB; tested species: mouse**

Alternative splicing and heparan sulfation converge on neurexin-1 to control glutamatergic transmission and autism-related behaviors.
Lu H, Zuo L, Roddick KM, Zhang P, Oku S, Garden J, Ge Y, Bellefontaine M, Delhaye M, Brown RE, Craig AM, et al.
Cell reports (2023) 427: 112714. . **WB; tested species: rat**

Deorphanizing FAM19A proteins as pan-neurexin ligands with an unusual biosynthetic binding mechanism.
Khalaj AJ, Sterky FH, Sclip A, Schwenk J, Brunger AT, Fakler B, Südhof TC
The Journal of cell biology (2020) 2199: . . **WB; tested species: mouse**

A rare autism-associated MINT2/APBA2 mutation disrupts neurexin trafficking and synaptic function.
Lin AY, Henry S, Reissner C, Neupert C, Kenny C, Missler M, Beffert U, Ho A
Scientific reports (2019) 91: 6024. . **WB; tested species: mouse**

Selected General References

Synaptic arrangement of the neuroligin/beta-neurexin complex revealed by X-ray and neutron scattering.
Comoletti D et al. Structure (2007) PubMed:17562316

Neurexin-neuroligin signaling in synapse development.
Craig AM et al. Curr. Opin. Neurobiol. (2007) PubMed:17275284

Alternative splicing controls selective trans-synaptic interactions of the neuroligin-neurexin complex.
Chih B et al. Neuron (2006) PubMed:16846852

The neuroligin and neurexin families: from structure to function at the synapse.
Lisé MF et al. Cell. Mol. Life Sci. (2006) PubMed:16794786

Expression patterns of neurexin-1 and neuroligins in brain and retina of the chick embryo: Neuroligin-3 is absent in retina.
Paraoanu LE et al. Neurosci. Lett. (2006) PubMed:16300891

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

Access the online factsheet including applicable protocols at https://sysy.com/product/175103 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.