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**: 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.
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

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**

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
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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.
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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**

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

Characterization of the interaction of a recombinant soluble neuroligin-1 with neurexin-1beta.
Comoletti D et al. J. Biol. Chem. (2003) PubMed:14522992

Neurexin mediates the assembly of presynaptic terminals.
Dean C et al. Nat. Neurosci. (2003) PubMed:12796785

Structure and evolution of neurexin genes: insight into the mechanism of alternative splicing.
Tabuchi K et al. Genomics (2002) PubMed:12036300

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 our antibodies and control proteins / peptides are shipped lyophilized (vacuum freeze-dried) and are stable in this form 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. **They must not be stored in the freezer when still lyophilized!** Temperatures below zero may cause loss of performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long term storage (several months) may lead to aggregation.
- **Control peptides** should be kept at -20°C before reconstitution.

Long Term Storage after Reconstitution (General Considerations)

- The storage freezer must not be of the frost-free variety ("no-frost freezer"). This cycle between freezing and thawing (to reduce frost-build-up), which is exactly what should be avoided. For the same reason, antibody vials should be placed in an area of the freezer that has minimal temperature fluctuations, for instance towards the back rather than on a door shelf.
- Aliquot the antibody and store frozen (-20°C to -80°C). Avoid very small aliquots (below 20 µl) and use the smallest storage vial or tube possible. The smaller the aliquot, the more the stock concentration is affected by evaporation and adsorption of the antibody to the surface of the storage vial or tube. Adsorption of the antibody to the surface leads to a substantial loss of activity.
- The addition of glycerol to a final concentration of 50% lowers the freezing point of your stock and keeps your antibody at -20°C in liquid state. This efficiently avoids freeze and thaw cycles.

Product Specific Hints for Storage

Control proteins / peptides

- Store at -20°C to -80°C.

Monoclonal Antibodies

- **Ascites** and **hybridoma supernatant** should be stored at -20°C up to -80°C. **Prolonged storage at 4°C is not recommended!** Unlike serum, ascites may contain proteases that will degrade the antibodies.
- **Purified IgG** should be stored at -20°C up to -80°C. Adding a carrier protein like BSA will increase long term stability. Many of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Polyclonal Antibodies

- **Crude antisera**: With anti-microbials added, they may be stored at 4°C. However, frozen storage (-20°C up to -80°C) is preferable.
- **Affinity purified antibodies**: Less robust than antisera. Storage at -20°C up to -80°C is recommended. Adding a carrier protein like BSA will increase long term stability. Most of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Fluorescence-labeled Antibodies

- Store as a liquid with 1 : 1 (v/v) glycerol at -20°C. Protect these antibodies from light exposure.

Avoid repeated freeze-thaw cycles for all antibodies!

FAQ - How should I reconstitute my antibody?

Reconstitution

- All our purified antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the amount of deionized water given in the respective datasheet. If higher volumes are preferred, add water as mentioned above and then the desired amount of PBS and a stabilizing carrier protein (e.g. BSA) to a final concentration of 2%. Some of our antibodies already contain albumin. Take this into account when adding more carrier protein.
  For complete reconstitution, carefully remove the lid. After adding water, briefly vortex the solution. You can spin down the liquid by placing the vial into a 50 ml centrifugation tube filled with paper.
- If desired, add small amounts of azide or thimerosal to prevent microbial growth. This is especially recommended if you want to keep an aliquot a 4°C.
- After reconstitution of fluorescence-labeled antibodies, add 1 : 1 (v/v) glycerol to a final concentration of 50%. This lowers the freezing point of your stock and keeps your antibody in liquid state at -20°C.
- Glycerol may also be added to unlabeled primary antibodies. It is a suitable way to avoid freeze-thaw cycles.
- Please refer to our **tips and hints for subsequent storage** of reconstituted antibodies and control peptides and proteins.