SYSY Antibodies

Rudolf-Wissell-Str. 28a
37079 Göttingen, Germany
Phone: +49 551-50556-0
Fax: +49 551-50556-384
E-mail: sales@sysy.com
Web: www.sysy.com

Neuroligin3

Cat.No. 129 103; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Albumin was 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**: not tested yet **ICC**: not recommended **IHC**: not recommended **IHC-P**: not recommended **ELISA**: yes (see remarks)
Immunogen	Recombinant protein corresponding to AA 710 to 824 from mouse Neuroligin3 (UniProt Id: Q8BYM5)
Reactivity	Reacts with: rat (Q62889), mouse (Q8BYM5). Other species not tested yet.
Specificity	Specific for neuroligin 3. Detects other neuroligins when heavily overexpressed. K.O. validated
Matching control	129-1P
Remarks	**ELISA**: Suitable as detector antibody for sandwich-ELISA with cat. no. 129 011 as capture antibody. The ELISA-protocol for membrane proteins is recommended.

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 129 103

Expression of neurexin, neuroligin, and their cytoplasmic binding partners in the pancreatic beta-cells and the involvement of neuroligin in insulin secretion.
Suckow AT, Comoletti D, Waldrop MA, Mosedale M, Egodage S, Taylor P, Chessler SD
Endocrinology (2008) 14912: 6006-17. . **WB**

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**

Synaptic Kalirin-7 and Trio Interactomes Reveal a GEF Protein-Dependent Neuroligin-1 Mechanism of Action.
Paskus JD, Tian C, Fingleton E, Shen C, Chen X, Li Y, Myers SA, Badger JD, Bemben MA, Herring BE, Roche KW, et al.
Cell reports (2019) 2910: 2944-2952.e5. . **WB; tested species: rat**

Neuroligin 1 regulates spines and synaptic plasticity via LIMK1/cofilin-mediated actin reorganization.
Liu A, Zhou Z, Dang R, Zhu Y, Qi J, He G, Leung C, Pak D, Jia Z, Xie W
The Journal of cell biology (2016) 2124: 449-63. . **WB**

Synaptic Contacts Enhance Cell-to-Cell Tau Pathology Propagation.
Calafate S, Buist A, Miskiewicz K, Vijayan V, Daneels G, de Strooper B, de Wit J, Verstreken P, Moechars D
Cell reports (2015) 118: 1176-83. . **WB; KD verified; tested species: rat**

Promoter-like sequences regulating transcriptional activity in neurexin and neuroligin genes.
Runkel F, Rohlmann A, Reissner C, Brand SM, Missler M
Journal of neurochemistry (2013) 1271: 36-47. . **WB**

Selected General References

Neuroligin 1 is a postsynaptic cell-adhesion molecule of excitatory synapses.
Song JY, Ichtchenko K, Südhof TC, Brose N
Proceedings of the National Academy of Sciences of the United States of America (1999) 963: 1100-5. .

Activity-dependent validation of excitatory versus inhibitory synapses by neuroligin-1 versus neuroligin-2.
Chubykin AA, Atasoy D, Etherton MR, Brose N, Kavalali ET, Gibson JR, Südhof TC
Neuron (2007) 546: 919-31. .

Dissection of synapse induction by neuroligins: effect of a neuroligin mutation associated with autism.
Chubykin AA, Liu X, Comoletti D, Tsigelny I, Taylor P, Südhof TC
The Journal of biological chemistry (2005) 28023: 22365-74. .

Neuroligin 2 is exclusively localized to inhibitory synapses.
Varoqueaux F, Jamain S, Brose N
European journal of cell biology (2004) 839: 449-56. .

Synaptic targeting of neuroligin is independent of neurexin and SAP90/PSD95 binding.
Dresbach T, Neeb A, Meyer G, Gundelfinger ED, Brose N
Molecular and cellular neurosciences (2004) 273: 227-35. .

The making of neurexins.
Missler M, Fernandez-Chacon R, Südhof TC
Journal of neurochemistry (1998) 714: 1339-47. .

Access the online factsheet including applicable protocols at https://sysy.com/product/129103 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.