

## Neurologin2

Cat.No. 129 203; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

### Data Sheet

|                            |  |
|----------------------------|--|
| Reconstitution/<br>Storage | 50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Albumin and azide were added for stabilization. For <b>reconstitution</b> add 50 µl H <sub>2</sub> O 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               | <b>WB:</b> 1 : 1000 (AP staining) (see remarks)<br><b>IP:</b> yes<br><b>ICC:</b> 1 : 500<br><b>IHC:</b> yes<br><b>IHC-P:</b> not tested yet<br><b>EM:</b> yes  |
| Immunogen                  | Synthetic peptide corresponding to AA 732 to 749 from rat Neurologin2 (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                    | <b>WB:</b> The crude antiserum (cat. no. <a href="#">129 202</a> ) produces stronger signals.<br><b>ELISA:</b> 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

**Neurologins** form a family of postsynaptic cell surface molecules that interact with  $\beta$ -neurexins. They are 110-120 kDa polypeptides with homology to acetylcholine esterase. Neurologin1 and neurologin3 are specifically localized to post-synaptic densities of excitatory synapses whereas **neurologin2** is found exclusively on inhibitory synapses. Mutations in neurologin3 and neurologin4 have been implicated with a rare, heritable form of autism.

## Selected References for 129 203

- Differential regulation of neurexin at glutamatergic and GABAergic synapses.  
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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.  
Tärnlungeanu 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**
- 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.  
Kirizis T, Kerti-Szigeti K, Lorincz A, Nusser Z  
The European journal of neuroscience (2014) 3911: 1771-83. . **EM; tested species: rat**
- 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 Neurologin-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**
- Interaction between Teneurin-2 and microtubules via EB proteins provides a platform for GABAA receptor exocytosis.  
Ichinose S, Susuki Y, Hosoi N, Kaneko R, Ebihara M, Hirai H, Iwasaki H  
eLife (2023) 12: . . **ICC; tested species: mouse**
- Analyzing schizophrenia-related phenotypes in mice caused by autoantibodies against NRXN1α in schizophrenia.  
Shiwaku H, Katayama S, Gao M, Kondo K, Nakano Y, Motokawa Y, Toyoda S, Yoshida F, Hori H, Kubota T, Ishikawa K, et al.  
Brain, behavior, and immunity (2023) 111: 32-45. . **WB; tested species: mouse**
- Complementary Use of Super-Resolution Imaging Modalities to Study the Nanoscale Architecture of Inhibitory Synapses.  
Gookin SE, Taylor MR, Schwartz SL, Kennedy MJ, Dell'Acqua ML, Crosby KC, Smith KR  
Frontiers in synaptic neuroscience (2022) 14: 852227. . **ICC; tested species: rat**
- Phosphorylation of neurologin-2 by PKA regulates its cell surface abundance and synaptic stabilization.  
Half FF, Hannan S, Kwanthongdee J, Lesept F, Smart TG, Kittler JT  
Science signaling (2022) 15739: eabg2505. . **ICC; 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 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 at 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.