

## Neuroigin2

Cat.No. 129 205; Polyclonal Guinea pig 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 <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) <b>IP:</b> not tested yet <b>ICC:</b> 1 : 100 up to 1 : 500 <b>IHC:</b> external data (see remarks) <b>IHC-P (FFPE):</b> not tested yet <b>EM:</b> external data (see remarks)
Immunogen	Synthetic peptide corresponding to residues surrounding AA760 of rat Neuroigin2 (UniProt Id: Q62888)
Reactivity	Reacts with: rat (Q62888), mouse (Q69ZK9). Other species not tested yet.
Specificity	K.O. validated PubMed: <a href="https://pubmed.ncbi.nlm.nih.gov/39284769/">39284769</a>
Remarks	<b>IHC:</b> This antibody has been successfully applied for this method by our customers using mild fixation (1% PFA at pH 6) according to <a href="#">Lorincz and Nusser 2010</a> (see gallery). It has not been validated using our standard protocol. <b>EM:</b> This antibody has been successfully applied and published for this method by customers (see application-specific references).

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

## Background

**Neuroigin**s form a family of postsynaptic cell surface molecules that interact with β-neurexins. They are 110-120 kDa polypeptides with homology to acetylcholine esterase. Neuroigin1 and neuroigin3 are specifically localized to post-synaptic densities of excitatory synapses whereas **neuroigin2** is found exclusively on inhibitory synapses. Mutations in neuroigin3 and neuroigin4 have been implicated with a rare, heritable form of autism.

## Selected References for 129 205

A Spatial-Temporal Analysis of Brain Activation to Explain the Take-Over Failure in Conditionally Automated Driving.  
Yin W, Chai C, Weng S, Shi X  
Human factors (2024) : 187208241283606. . **IHC\_FR; KO verified; tested species: mouse**

Vangl2 in the Dentate Network Modulates Pattern Separation and Pattern Completion.  
Robert BJA, Moreau MM, Dos Santos Carvalho S, Barthet G, Racca C, Bhouri M, Quiedeville A, Garret M, Atchama B, Al Abed AS, Guette C, et al.  
Cell reports (2020) 3110: 107743. . **IHC; tested species: mouse**

Similar GABAA receptor subunit composition in somatic and axon initial segment synapses of hippocampal pyramidal cells.  
Kerti-Szigeti K, Nusser Z  
eLife (2016) 5: . . **EM**

Neuroanatomical characterization of the cell adhesion molecule IgSF9b reveals localization to inhibitory and excitatory synapses in the mouse limbic system.  
Rotondo F, Ali H, Maichle M, Schmeisser MJ, Brose N, Krueger-Burg D  
Journal of molecular medicine (Berlin, Germany) (2025) : . . **IHC; tested species: mouse**

Vision-dependent specification of cell types and function in the developing cortex.  
Cheng S, Butrus S, Tan L, Xu R, Sagireddy S, Trachtenberg JT, Shekhar K, Zipursky SL  
Cell (2022) 1852: 311-327.e24. . **IHC; tested species: mouse**

## Selected General References

Neuroigin 1 is a postsynaptic cell-adhesion molecule of excitatory synapses.  
Song JY et al. Proc. Natl. Acad. Sci. U.S.A. (1999) PubMed:9927700

Activity-dependent validation of excitatory versus inhibitory synapses by neuroigin-1 versus neuroigin-2.  
Chubykin AA et al. Neuron (2007) PubMed:17582332

Dissection of synapse induction by neuroigin: effect of a neuroigin mutation associated with autism.  
Chubykin AA et al. J. Biol. Chem. (2005) PubMed:15797875

Neuroigin 2 is exclusively localized to inhibitory synapses.  
Varoqueaux F et al. Eur. J. Cell Biol. (2004) PubMed:15540461

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

The making of neurexins.  
Missler M et al. J. Neurochem. (1998) PubMed:9751164

Structures, alternative splicing, and neurexin binding of multiple neuroigin.  
Ichtchenko K et al. J. Biol. Chem. (1996) PubMed:8576240

Neuroigin 1: a splice site-specific ligand for beta-neurexins.  
Ichtchenko K et al. Cell (1995) PubMed:7736595

The synaptic vesicle cycle: a cascade of protein-protein interactions.  
Südhof TC et al. Nature (1995) PubMed:7791897

Access the online factsheet including applicable protocols  
at <https://sysy.com/product/129205> 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.