SYSY Antibodies

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NeuN

Cat.No. 266 011; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized. Albumin and azide were added for stabilization. For **reconstitution** add 100 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**: not tested yet **IP**: not tested yet **ICC**: 1 : 500 **IHC**: 1 : 500 **IHC-P (FFPE)**: 1 : 1000 up to 1 : 5000 (see remarks)
Clone	350D3
Subtype	IgG1 (κ light chain)
Immunogen	Recombinant protein corresponding to AA 1 to 97 from mouse NeuN (UniProt Id: Q8BIF2)
Epitop	AA 5 to 15 from mouse NeuN (UniProt Id: Q8BIF2)
Reactivity	Reacts with: rat (D4A2H6), mouse (Q8BIF2). No signal: human (A6NFN3). Other species not tested yet.
Remarks	**IHC-P (FFPE)**: For chromogenic detection, an optimized AGR time of 5 minutes is recommended for best results. For fluorescent detection, an optimized AGR time of 5 minutes is recommended for best results. For best results apply mild antigen retrieval

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

Background

NeuN (**Neu**ronal **N**uclei) is a neuron-specific nuclear protein that has been identified as Fox-3/Rbfox3, a member of the Fox-1 family of transcription factors.
NeuN is only expressed in the nuclei of differentiated neurons. In some neurons - Purkinje cells, sympathetic ganglion cells, INL retinal cells, Cajal-Retzius cells, inferior olivary, and dentate nucleus neurons - NeuN is not detectable.

For more information on protein expression pattern, please refer to the overview image in our SYSY Antibodies ATLAS.

Selected References for 266 011

Extracellular matrix remodeling through endocytosis and resurfacing of Tenascin-R.
Dankovich TM, Kaushik R, Olsthoorn LHM, Petersen GC, Giro PE, Kluever V, Agüi-Gonzalez P, Grewe K, Bao G, Beuermann S, Hadi HA, et al.
Nature communications (2021) 121: 7129. . **ICC; tested species: rat**

Ventral hippocampal projections to the medial prefrontal cortex regulate social memory.
Phillips ML, Robinson HA, Pozzo-Miller L
eLife (2019) 8: . . **IHC; tested species: mouse**

Sleep loss induces cholesterol-associated myelin dysfunction.
Simayi R, Ficiarà E, Faniyan O, Cerdán Cerdá A, Aboufares El Alaoui A, Fiorini R, Cutignano A, Piscitelli F, Maroto AS, Santos A, Del Gallo F, et al.
Proceedings of the National Academy of Sciences of the United States of America (2026) 1234: e2523438123. . **IHC; tested species: rat**

Oxytocin modulates respiratory heart rate variability through a hypothalamus-brainstem-heart neuronal pathway.
Buron J, Linossier A, Gestreau C, Schaller F, Tyzio R, Felix MS, Matarazzo V, Thoby-Brisson M, Muscatelli F, Menuet C
Nature neuroscience (2025) 2811: 2247-2261. . **IHC; tested species: mouse**

In vivo neuronal and astrocytic activation in somatosensory cortex by acupuncture stimuli.
Chang XY, Chen K, Cheng T, Lai PT, Zhang L, So KF, Yang ES
Neural regeneration research (2022) 1711: 2526-2529. . **IHC; tested species: mouse**

Selected General References

Neurons identified by NeuN/Fox-3 immunoreactivity have a novel distribution in the hamster and mouse suprachiasmatic nucleus.
Morin LP et al. Brain Res. (2011) PubMed:21981805

NeuN/Fox-3 is an intrinsic component of the neuronal nuclear matrix.
Dent MA et al. FEBS Lett. (2010) PubMed:20452351

NeuN is not a reliable marker of dopamine neurons in rat substantia nigra.
Cannon JR et al. Neurosci. Lett. (2009) PubMed:19682546

Identification of neuronal nuclei (NeuN) as Fox-3, a new member of the Fox-1 gene family of splicing factors.
Kim KK et al. J. Biol. Chem. (2009) PubMed:19713214

NeuN, a neuronal specific nuclear protein in vertebrates.
Mullen RJ et al. Development (1992) PubMed:1483388

Access the online factsheet including applicable protocols at https://sysy.com/product/266011 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.