SYSY Antibodies

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Brn3a

Cat.No. 411 003; 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**: not tested yet **IP**: not tested yet **ICC**: not tested yet **IHC**: 1 : 1000 up to 1 : 5000 (see remarks) **IHC-P (FFPE)**: 1 : 500 up to 1 : 1000
Immunogen	Synthetic peptide corresponding to residues near the amino terminus of mouse Brn3a (UniProt Id: P17208)
Reactivity	Reacts with: mouse (P17208). Other species not tested yet.
Remarks	**IHC**: For optimal results in retina tissue, follow the retina protocol.

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

Background

Brn3a, also referred to as POU4F1, RGC-1 or Oct-T1, is a transcription factor highly expressed in the developing peripheral sensory nervous system, in cells of the B- and T-lymphocytic lineages and in certain regions of the CNS e.g. retina, spinal cord, midbrain superior colliculus, red nucleus, nucleus ambiguus, inferior olivary nucleus and habenula. In the retina Brn3a is a well-established marker for retinal ganglion cells.

Selected References for 411 003

Resveratrol attenuates retinal ganglion cell loss in a mouse model of retinal ischemia reperfusion injury via multiple pathways.
Ji K, Li Z, Lei Y, Xu W, Ouyang L, He T, Xing Y
Experimental eye research (2021) 209: 108683. . **WB, IHC; tested species: mouse**

Selected Ionotropic Receptors and Voltage-Gated Ion Channels: More Functional Competence for Human Induced Pluripotent Stem Cell (iPSC)-Derived Nociceptors.
Schoepf CL, Zeidler M, Spiecker L, Kern G, Lechner J, Kummer KK, Kress M
Brain sciences (2020) 106: . . **ICC; tested species: human,mouse**

Retinal ganglion cell survival and functional maturation in transiently vascularized human retinal organoids.
Sharma K, Habibey R, Ribeiro MM, Cui B, Siwicki RA, Striebel J, Pawlick JS, Zorn J, Utz L, Renner M, Picelli S, et al.
Cell stem cell (2026) : . . **ICC; tested species: human**

Therapeutic Window of AAV-SIRT1 Gene Therapy in Mouse Models of Optic Nerve Degeneration.
Chaqour B, Pham JC, Yue J, Dine K, Jin F, Ying GS, Bennett J, Shindler KS, Ross AG
Translational vision science & technology (2026) 1510: 17. . **IHC; tested species: mouse**

Analysis of retinal ganglion cell subtypes across six different inbred mouse strains.
Lin ST, Lin F, Wang J, Geisert EE
Molecular vision (2026) 32: 120-129. . **IHC; tested species: mouse**

Alternatively activated neutrophils limit T cell-driven neuroinflammation.
Atkinson JR, Bellinger C, Jerome AD, Gardner AM, Groover HK, Chen S, Moffatt AM, Sepeda JA, Dokiburra A, Hammond LA, Liu T, et al.
Journal of neuroinflammation (2026) 231: . . **IHC; tested species: mouse**

Loss of mitochondrial DNA helicase in retinal macroglia drives neovascular retinopathy.
Olander S, Karaman S, Suomi F, Aguilar K, Zhaivoron A, Nedergaard M, Smeds L, Tiihonen J, Quintana A, Hidalgo J, Alitalo K, et al.
EMBO molecular medicine (2026) : . . **IHC; tested species: mouse**

An improved method of transducing retinal ganglion cells using AAV via transpupillary injection in adult mouse eyes.
Lin F, Lin ST, Wang J, Sellers JT, Chrenek MA, Nickerson JM, Boatright JH, Geisert EE
Molecular vision (2025) 31: 1-9. . **IHC; tested species: mouse**

Differential Expression of the Synapse Regulatory Proteins Neurexins in Early Diabetic Retinal Disease.
Unlu EK, Marx-Rattner R, Klein KA, Dawson VL, Dawson TM, Sachdeva MM
Investigative ophthalmology & visual science (2025) 6611: 46. . **ICC; tested species: human**

The neuronal chaperone proSAAS is highly expressed in the retina.
Schaffer N, Mitias S, Guo Y, Bernstein SL, Lindberg I
PloS one (2025) 205: e0321867. . **IHC; tested species: mouse**

Myeloid lineage C3 induces reactive gliosis and neuronal stress during CNS inflammation.
Garton T, Smith MD, Kesharwani A, Gharagozloo M, Oh S, Na CH, Absinta M, Reich DS, Zack DJ, Calabresi PA
Nature communications (2025) 161: 3481. . **IHC; tested species: mouse**

Mettl3-Mediated N6-Methyladenosine Modification Mitigates Ganglion Cell Loss and Retinal Dysfunction in Retinal Ischemia-Reperfusion Injury by Inhibiting FoxO1-Mediated Autophagy.
Zhu F, Feng J, Pan Y, Ouyang L, He T, Xing Y
Investigative ophthalmology & visual science (2025) 662: 58. . **IHC; tested species: mouse**

Access the online factsheet including applicable protocols at https://sysy.com/product/411003 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.