

## Brn3a

Cat.No. 411 003; 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> not tested yet<br><b>IP:</b> not tested yet<br><b>ICC:</b> not tested yet<br><b>IHC:</b> 1 : 1000 up to 1 : 5000 (see remarks)<br><b>IHC_P:</b> 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).<br>Other species not tested yet.  |
| Remarks                    | <b>IHC:</b> For optimal results, mild fixation (immersion fixation with 4% PFA for 15 min) according to Gierke et al. 2023 is recommended.   |

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

### Background

**Brn 3a**, 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**

Comparison of Brn3a and RBPMS Labeling to Assess Retinal Ganglion Cell Loss During Aging and in a Model of Optic Neuropathy.

Meng M, Chaqour B, O'Neill N, Dine K, Sarabu N, Ying GS, Shindler KS, Ross AG  
Investigative ophthalmology & visual science (2024) 654: 19. . **IHC; tested species: mouse**

A Non-canonical Excitatory PV RGC-PV SC Visual Pathway for Mediating the Looming-evoked Innate Defensive Response. Yuan M, Jin S, Tan G, Song S, Liu Y, Wang H, Shen Y  
Neuroscience bulletin (2024) 403: 310-324. . **IHC; tested species: mouse**

Intranasal Resveratrol Nanoparticles Enhance Neuroprotection in a Model of Multiple Sclerosis. Shamsheer E, Khan RS, Davis BM, Dine K, Luong V, Cordeiro MF, Shindler KS  
International journal of molecular sciences (2024) 257: . . **IHC; tested species: mouse**

Optimisation of AAV-NDI1 Significantly Enhances Its Therapeutic Value for Correcting Retinal Mitochondrial Dysfunction. Chadderton N, Palfi A, Maloney DM, Carrigan M, Finnegan LK, Hanlon KS, Shortall C, O'Reilly M, Humphries P, Cassidy L, Kenna PF, et al.  
Pharmaceutics (2023) 152: . . **IHC; tested species: mouse**

Reduction of retinal ganglion cell death in mouse models of familial dysautonomia using AAV-mediated gene therapy and splicing modulators.

Schultz A, Cheng SY, Kirchner E, Costello S, Miettinen H, Chaverra M, King C, George L, Zhao X, Narasimhan J, Weetall M, et al.  
Scientific reports (2023) 131: 18600. . **IHC; tested species: mouse**

Inhibition of Heat Shock Protein B8 Alleviates Retinal Dysfunction and Ganglion Cells Loss Via Autophagy Suppression in Mouse Axonal Damage.

Xie F, Li Z, Yang N, Yang J, Hua D, Luo J, He T, Xing Y  
Investigative ophthalmology & visual science (2022) 636: 28. . **IHC; tested species: mouse**

SARM1 Ablation Is Protective and Preserves Spatial Vision in an In Vivo Mouse Model of Retinal Ganglion Cell Degeneration. Finnegan LK, Chadderton N, Kenna PF, Palfi A, Carty M, Bowie AG, Millington-Ward S, Farrar GJ  
International journal of molecular sciences (2022) 233: . . **IHC; tested species: mouse**

Neuroprotection mediated by ST266 requires full complement of proteins secreted by amnion-derived multipotent progenitor cells.

Willett K, Khan RS, Dine K, Wessel H, Kirshner ZZ, Sauer JL, Ellis A, Brown LR, Shindler KS  
PloS one (2021) 161: e0243862. . **IHC; tested species: mouse**

Krüppel-like factor 7 protects retinal ganglion cells and promotes functional preservation via activating the Akt pathway after retinal ischemia-reperfusion injury.

Li Z, Xie F, Yang N, Yang J, Luo J, Hua D, He T, Xing Y  
Experimental eye research (2021) 207: 108587. . **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 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.