**Brn 3a**

**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 H₂O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C until use.

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
- **IHC-P/FFPE:** 1 : 500 up to 1 : 1000

**Immunogen**

Synthetic peptide corresponding to AA 7 to 28 from mouse Brn3a (UniProt Id: P17208)

**Reactivity**

Reacts with: mouse (P17208).

Other species not tested yet.

**Specificity**

Specific for Brn3a.

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**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 ambiguous, inferior olivary nucleus and habenula. In the retina Brn3a is a well-established marker for retinal ganglion cells.

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**Selected References for 411 003**

Oral administration of the iron chelator deferiprone protects against loss of retinal ganglion cells in a mouse model of glaucoma.

Cui QN, Bargoud AR, Ross AG, Song Y, Dunaief JL

Experimental eye research (2020) : 107961. . .

IHC; tested species: mouse

Selected ionotropic Receptors and Voltage-Gated Ion Channels: More Functional Competence for Human Induced Pluripotent Stem Cell (iPSC)-Derived Neurons.

Schoepf CL, Zedler M, Speicker L, Kern G, Lechner J, Kummer KK, Kress M


IHC; tested species: human,mouse

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


PloS one (2021) 161: e0243862. . .

IHC; tested species: mouse

SIRT1 is required for the neuroprotection of retinal ganglion cells after retinal ischemia-reperfusion injury in mice.

Luo J, He T, Yang J, Yang N, Li Z, Xing Y


IHC; tested species: mouse

One proline deletion in the fusion peptide of neurotropic mouse hepatitis virus (MHV) restricts retrograde axonal transport and neurodegeneration.

Rout SS, Singh M, Shindler KS, Das Sarma J


IHC; tested species: mouse

Mapping of Extrinsic Innervation of the Gastrointestinal Tract in the Mouse Embryo.


IHC; tested species: mouse

GLP-1 Receptor Agonist NLY01 Reduces Retinal Inflammation and Neuron Death Secondary to Ocular Hypertension.

Sterling JK, Adetunji MO, Guttha S, Bargoud AR, Uyhazi KE, Ross AG, Dunaief JL, Cui QN

Cell reports (2020) 335: 108271. . .

IHC; tested species: mouse

**Selected General References**

Brn3a and Brn3b knockout mice display unvaried retinal fine structure despite major morphological and numerical alterations of ganglion cells.

Ghinia MG, Novelli E, Saijo S, Badea TC, Strettoi E


Brn3a and Islet1 act epistatically to regulate the gene expression program of sensory differentiation.

Dykes IM, Tempest L, Lee Si, Turner EE


Regulation of NGFI-A (Egr-1) gene expression by the POU domain transcription factor Brn-3a.

Smith MD, Ensor EA, Stohl L, Wagner JA, Latchman DS


Targeted deletion of the mouse POU domain gene Brn-3a causes selective loss of neurons in the brainstem and trigeminal ganglion, uncoordinated limb movement, and impaired suckling.

Xiang M, Gan L, Zhou L, Klein WH, Nathans J


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Access the online factsheet including applicable protocols at [https://sysy.com/product/411003](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 10 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 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 a 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.