

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 H ₂ O 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.

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

Access the online factsheet including applicable protocols at <https://susy.com/product/411003> or scan the QR-code.



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

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 Nociceptors.

Schoepf CL, Zeidler M, Spiecker L, Kern G, Lechner J, Kummer KK, Kress M
Brain sciences (2020) 106: . . **ICC; tested species: human,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**

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

Luo J, He T, Yang J, Yang N, Li Z, Xing Y
Graefe's archive for clinical and experimental ophthalmology = Albrecht von Graefes Archiv fur klinische und experimentelle Ophthalmologie (2020) 2582: 335-344. . **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
The Journal of biological chemistry (2020) 29520: 6926-6935. . **IHC; tested species: mouse**

Amnion-Derived Multipotent Progenitor Cells Suppress Experimental Optic Neuritis and Myelitis.

Khan RS, Ross AG, Willett K, Dine K, Banas R, Brown LR, Shindler KS
Neurotherapeutics : the journal of the American Society for Experimental NeuroTherapeutics (2020) : . . **IHC; tested species: mouse**

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

Niu X, Liu L, Wang T, Chuan X, Yu Q, Du M, Gu Y, Wang L
The Journal of neuroscience : the official journal of the Society for Neuroscience (2020) 4035: 6691-6708. . **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, Sajgo S, Badaea TC, Strettoi E
The Journal of comparative neurology (2016) : . .

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

Dykes IM, Tempest L, Lee SI, Turner EE
The Journal of neuroscience : the official journal of the Society for Neuroscience (2011) 3127: 9789-99. .

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
Brain research. Molecular brain research (1999) 741-2: 117-25. .

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
Proceedings of the National Academy of Sciences of the United States of America (1996) 9321: 11950-5. .

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.