

Neuron-glial antigen2 (NG2, Cspg4)

Cat.No. 481 002; Polyclonal rabbit antibody, 200 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	200 µl antiserum, lyophilized. For reconstitution add 200 µl H ₂ O, then aliquot and store at -20°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: 1 : 500 up to 1 : 1000 (AP-staining) IP: yes ICC: 1 : 500 (see remarks) IHC: not recommended IHC-P: not recommended IHC-Fr: not recommended
Immunogen	Synthetic peptide mix corresponding to residues near the carboxy and amino terminus of mouse Neuron-glial antigen 2 (UniProt Id: Q8VHY0)
Reactivity	Reacts with: mouse (Q8VHY0), rat (Q00657). Other species not tested yet.
Remarks	ICC: The following fixatives are possible: 4% formaldehyde/PFA, methanol This antibody shows weak unspecific nuclear staining of neurons.

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

Background

The NG2 proteoglycan is a type I membrane protein that is expressed by a variety of immature cells of several embryonic tissue origins including glia, muscle progenitor cells, and pericytes (1). In the central nervous system, expression of NG2 was originally thought to specify oligodendroglial progenitor cells, but more recent data suggest that NG2-expressing cells encompass a wider range of immature glial cells in white and gray matter. These include glia that make synaptic-like contacts with neurons in the hippocampus and cerebellum (2) and glial cells specifically associated with the nodes of Ranvier (3). Interestingly, many NG2-positive cells are both proliferative and motile or exhibit local process motility (4, 5).

Selected General References

Polydendrocytes: NG2 cells with many roles in development and repair of the CNS.
Nishiyama A et al. Neuroscientist (2007) PubMed:17229976

Glutamatergic synapses on oligodendrocyte precursor cells in the hippocampus.
Bergles DE et al. Nature (2000) PubMed:10821275

Melanoma chondroitin sulphate proteoglycan regulates cell spreading through Cdc42, Ack-1 and p130cas.
Eisenmann KM et al. Nat Cell Biol (1999) PubMed:10587647

Cell-surface glycoprotein of oligodendrocyte progenitors involved in migration.
Niehaus A et al. J Neurosci (1999) PubMed:10366628

Synantocytes: new functions for novel NG2 expressing glia.
Butt AM et al. J Neurocytol () PubMed:14501223

Access the online factsheet including applicable protocols at <https://sysy.com/product/481002> 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.