SYSY Antibodies

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Neurocan

Cat.No. 453 004; Polyclonal Guinea pig antibody, 100 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µl antiserum, lyophilized. For **reconstitution** add 100 µl H_2O, 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**: not tested yet **IP**: not tested yet **ICC**: 1 : 500 up to 1 : 1000 **IHC**: 1 : 500 **IHC-P (FFPE)**: 1 : 250 up to 1 : 500
Immunogen	Synthetic peptide corresponding to AA 489 to 505 from mouse Neurocan (UniProt Id: P55066)
Reactivity	Reacts with: rat (P55067), mouse (P55066). Other species not tested yet.
Specificity	Specific for full length Neurocan and the N-terminal fragment (CSPG-190). Does not detect the c-terminal fragment (CSPG-150).
Matching control	453-0P

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

Background

Neurocan is a secreted brain-specific **c**hondroitin **s**ulfate **p**roteo**g**lycan (CSPG) whose expression and proteolytic cleavage are developmentally regulated (1). It belongs to the lectican family, is a component of the extracellular matrix and interacts with numerous molecules like Hyalorunan, Tenascins, N-CAM and more (2).
It is processed into a C-terminal (CSPG-150) and an N-terminal (CSPG-190) core glycoprotein which are the major forms occuring in adult rodent brain.
In young brains unprocessed Neurocan can also be detected together with both proteolytic products while its expression drops during development and is hardly detectable In adult brains (3).

Selected References for 453 004

Transplantation of LPS, IL-4, and TGF-β-induced reparative-biased macrophages promotes early motor functional recovery after spinal cord injury in rats.
Zha X, Zheng G, Wang H, Alhalabi OT, Heller R, Hatami M, Skutella T, Luzarowski M, Wang X, Krieg SM, Unterberg A, et al.
Journal of orthopaedic translation (2026) 60: 101219. . **IHC; tested species: rat**

Selected General References

Immunological identification of two proteoglycan fragments derived from neurocan, a brain-specific chondroitin sulfate proteoglycan.
Matsui F et al. Neurochem Int (1994) PubMed:7849571

Neurocan: a brain chondroitin sulfate proteoglycan.
Rauch U et al. Cell Mol Life Sci (2001) PubMed:11766883

Occurrence of a N-terminal proteolytic fragment of neurocan, not a C-terminal half, in a perineuronal net in the adult rat cerebrum.
Matsui F et al. Brain Res (1998) PubMed:9593817

Access the online factsheet including applicable protocols at https://sysy.com/product/453004 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.