Mouse/Rat Neurocan Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF5800

DESCRIPTION

Species Reactivity	Mouse/Rat
Specificity	Detects mouse and rat Neurocan in direct ELISAs and Western blots.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant mouse Neurocan Asp23-Asp637 Accession # NP_031815
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

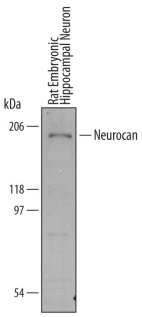
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below

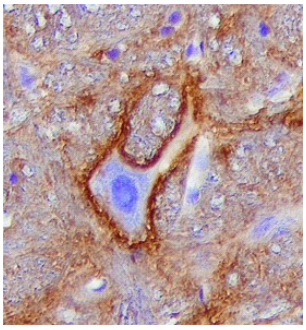
DATA

Western Blot



Detection of Mouse/Rat Neurocan by Western Blot. Western blot shows lysates of rat embryonic hippocampal neurons. PVDF membrane was probed with 1 µg/mL of Mouse/Rat Neurocan Antigen Affinity-purified Polyclonal Antibody (Catalog # AF5800) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for Neurocan at approximately 200 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 8.

Immunohistochemistry



Neurocan in Mouse Brain. Neurocan was detected in perfusion fixed frozen sections of mouse brain (medulla) using Mouse/Rat Neurocan Antigen Affinity-purified Polyclonal Antibody (Catalog # AF5800) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Sheep HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS019) and counterstained with hematoxylin (blue). View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Neurocan is a 220 kDa nervous tissue-specific chondroitin sulfate proteoglycan member of the aggrecan/versican proteoglycan family (1). Mouse Neurocan is synthesized as a 1268 amino acid (aa) precursor that contains a 22 aa signal sequence and a 1246 aa mature chain. The mature chain contains one Ig-like V-type domain (aa 37-157), two Link domains (aa 159-254 and 258-356), two EGF-like domains (aa 960-996 and 998-1034), one C-type lectin-like domain (aa 1036-1165), one Sushi domain (aa 1165-1224), and five potential sites for N-linked glycosylation. Mature mouse Neurocan is 90% and 66% aa identical to mature rat and human Neurocan, respectively. Neurocan binds with high affinity to the cell adhesion molecules (CAM) Ng-CAM and N-CAM to inhibit Neuronal adhesion and neurite growth (2-3). In the developing rat retina, the expression of Neurocan is regulated both temporally and spatially, which suggests that it may play a role in the differentiation of and neural network formation of the mammalian retina (1). Injury to the CNS leads to permanent loss of function due to the inability of severed nerve fibers to regenerate back to their targets (4). The lack of CNS repair is attributed in part to the extracellular matrix chondroitin sulfate proteoglycans, such as Neurocan, which are produced by activated glial cells post-injury (4).

References:

1. Inatani, M. *et al.* (1999) Invest. Ophthalmol. Vis. Sci. **40**:2350.
2. Friedlander, D.R. *et al.* (1994) J. Cell Biol. **125**:669.
3. Retzler, C. *et al.* (1996) J. Biol. Chem. **271**:27304.
4. Quaglia, X. *et al.* (2008) Brain **131**:240.

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