



## MONOCLONAL ANTIBODY

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Catalog NU-07-002

## Anti Neurocan (1G2)

## BACKGROUND

Neurocan is a nervous tissue-unique, secretory proteoglycan that carries predominantly chondroitin sulfate side chains. Its expression gradually decreases with the nervous tissue development. In the immature brain, neurocan exists in a full-length form with a 240 kDa-core glycoprotein, whereas it exists totally in proteolytic fragments of the NH<sub>2</sub>-terminal half (neurocan-N) with a 130 kDa-core glycopeptide and the COOH-terminal half (neurocan-C) with a 150 kDa-core glycopeptide. Neurocan is implicated in the neural network formation, and is a susceptibility factor for bipolar disorder. This proteoglycan is upregulated in the lesion site of the central nervous system, and is a major component of the glial scar.

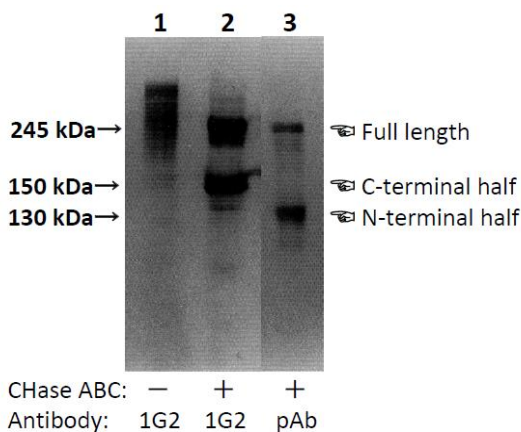
This antibody recognizes effectively the COOH-terminal half of rat neurocan core glycoprotein as well as the full length neurocan core glycoprotein.

<b>Product type</b>	Primary antibody
<b>Immunogen</b>	Chondroitin sulfate proteoglycans purified from 10-day-old rat brain
<b>Raised in</b>	Mouse (C3H/He)
<b>Myeloma</b>	P3-U1
<b>Clone number</b>	1G2
<b>Isotype</b>	IgG1, κ-chain
<b>Host</b>	Nude mouse
<b>Source</b>	Ascites
<b>Purification</b>	Affinity purified by Protein G
<b>Buffer</b>	PBS containing 0.02% NaN <sub>3</sub> as a preservative
<b>Concentration</b>	1.0 mg / mL
<b>Volume</b>	200 uL
<b>Label</b>	Unlabeled
<b>Specificity</b>	C-terminal half of rat neurocan core glycoprotein (approximately 150 kDa under reducing conditions).
<b>Cross reactivity</b>	Localization : central nervous system. Molecular mass of the full length core glycoprotein of rat neurocan is approximately 220kDa, so this monoclonal antibody recognizes it too. 220kDa of neurocan is expressed significantly in the immature brain, whereas 150 kDa of it is expressed significantly in the mature brain.
<b>Storage</b>	Shipped at 4°C. Upon arrival aliquot and store at -20°C or below. Aliquot to avoid cycles of freeze/thaw.
<b>Other</b>	<b>Data Link</b> : UniProtKB/Swiss-Prot <a href="#">P55067</a>

<b>Application notes</b>	<ul style="list-style-type: none"><li>• <b>Western blotting</b>: 1/10,000</li><li>• <b>Immunohistochemistry</b>: 1/100 (Frozen section), Available (Paraffin section)</li><li>• <b>Immunoprecipitation</b></li><li>• <b>ELISA</b></li></ul>
<b>Recommended dilutions</b>	Other applications have not been tested. Optimal dilutions/concentrations should be determined by the end user.

<b>References</b>	<ol style="list-style-type: none"><li>1) Oohira, A., et al.: <i>Neuroscience</i>, <b>60</b>, 145-157 (1994) <b>PMID</b>: 8052408</li><li>2) Matsui, F., et al.: <i>Neurochem. Int.</i>, <b>25</b>, 425-431 (1994) <b>PMID</b>: 7849571</li><li>3) Watanabe, E., et al.: <i>Eur. J. Neurosci.</i>, <b>7</b>, 547-554 (1995)</li><li>4) Fukuda, T., et al.: <i>J. Comp. Neurol.</i>, <b>382</b>, 141-152 (1997)</li><li>5) Inatani, M., et al.: <i>Invest. Ophthalmol. Vis. Sci.</i>, <b>40</b>, 2350-2359 (1999)</li></ol>
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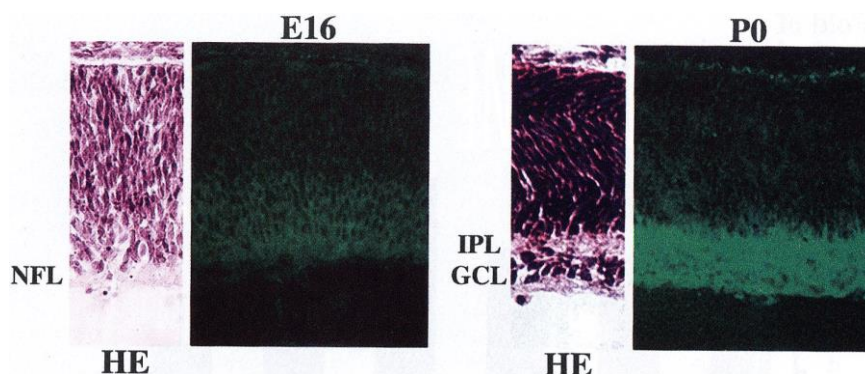
## ANTIBODY CHARACTERIZATION



**Fig.1 Characterization of neurocan peptide pAb and neurocan mAb (clone 1G2) with samples obtained from 10-day-old rat brain.**

The PBS-soluble brain CSPG mixture of 10-day-old rats (lane 1) and the brain PBS-extract digested with chondroitinase ABC (lanes 2 and 3) were separated by SDS-PAGE. Neurocan peptide pAb recognized a very diffuse band with the same mobility as that recognized by neurocan mAb (clone 1G2). Monoclonal antibody (clone 1G2) recognized both 240 and 150 kDa core glycoproteins in the chondroitinase-digested sample. Polyclonal antibody recognized not only the 240 kDa core glycoprotein but also that with a molecular weight of 130 kDa.

Reference : Neurochem. Int., 25 (1994) 425-431



**Fig.2 Immunohistochemical staining using the monoclonal anti-neurocan antibody (clone 1G2)**

Cryostat sections of the retina from embryonic day 16 (E16) and newborn (P0) rats were stained with the monoclonal anti-neurocan antibody. Confocal images are shown together with sections stained with hematoxylin-eosin (HE). NFL, nerve fiber layer; IPL, inner plexiform layer; GCL, ganglion cell layer.

Reference: Invest. Ophthalmol. Vis. Sci., 40 (1999) 2350-2359.

## RELATED PRODUCTS:

Product Name	Maker	Cat#
Anti Chondroitin Sulfate A (2H6) Monoclonal Antibody	CAC	NU-07-001
Anti Neurocan (1G2) Monoclonal Antibody	CAC	NU-07-002
Anti Neuroglycan C (C1) Monoclonal Antibody	CAC	NU-07-003
Anti N-syndecan Polyclonal Antibody	CAC	NU-07-004
Anti Neurocan peptides Polyclonal Antibody	CAC	NU-07-005

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