

neurocan (C-9): sc-515237

BACKGROUND

The lecticans are a family of chondroitin proteoglycans, including aggrecan, versican, neurocan and brevican, that contain a C-type lectin domain. Neurocan is a glycoprotein synthesized primarily by neurons, and its expression levels are highest during embryonic brain development and during the early postnatal period. Neurocan is a component of the extracellular matrix in the central nervous system that can bind to various other CNS matrix components, such as heparin, Tenascin-R, HB-GAM and NCAM, suggesting that it plays a role in axon guidance and neurite growth. Neurocan is a 1,257 amino acid, precursor protein in embryonic and neonatal rats that is proteolytically processed in the adult CNS into an N-terminal fragment, which localizes to the cytoplasm of glial cells. Neurocan expression (including the re-expression of the neonatal isoform) increases significantly in adults in the glial scar resulting from cortical injury.

REFERENCES

1. Retzler, C., et al. 1996. Structural and electron microscopic analysis of neurocan and recombinant neurocan fragments. *J. Biol. Chem.* 271: 17107-17113.
2. Milev, P., et al. 1998. High affinity binding and overlapping localization of neurocan and phosphacan/protein-tyrosine phosphatase- ζ/β with tenascin-R, amphoterin, and the heparin-binding growth associated molecule. *J. Biol. Chem.* 273: 6998-7005.
3. Milev, P., et al. 1998. Differential regulation of expression of hyaluronan-binding proteoglycans in developing brain: aggrecan, versican, neurocan, and brevican. *Biochem. Biophys. Res. Commun.* 247: 207-212.
4. Matsui, F., et al. 1998. Occurrence of a N-terminal proteolytic fragment of neurocan, not a C-terminal half, in perineuronal net in the adult rat cerebrum. *Brain Res.* 790: 45-51.

CHROMOSOMAL LOCATION

Genetic locus: NCAN (human) mapping to 19p13.11.

SOURCE

neurocan (C-9) is a mouse monoclonal antibody raised against amino acids 361-660 mapping within an internal region of neurocan of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

neurocan (C-9) is available conjugated to agarose (sc-515237 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515237 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515237 PE), fluorescein (sc-515237 FITC), Alexa Fluor[®] 488 (sc-515237 AF488), Alexa Fluor[®] 546 (sc-515237 AF546), Alexa Fluor[®] 594 (sc-515237 AF594) or Alexa Fluor[®] 647 (sc-515237 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-515237 AF680) or Alexa Fluor[®] 790 (sc-515237 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

neurocan (C-9) is recommended for detection of neurocan of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for neurocan siRNA (h): sc-41901, neurocan shRNA Plasmid (h): sc-41901-SH and neurocan shRNA (h) Lentiviral Particles: sc-41901-V.

Molecular Weight of neurocan full length: 220 kDa.

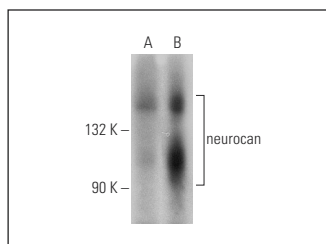
Molecular Weight of neurocan proteolytic variant: 140 kDa.

Positive Controls: human brain tissue extract: sc-364375 or human brain hippocampus tissue extract.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



neurocan (C-9): sc-515237. Western blot analysis of neurocan expression in human brain (A) and human hippocampus (B) tissue extracts.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.