

# Neuroglycan C (G-19): sc-66487

## BACKGROUND

Neuroglycan C is a brain-specific chondroitin sulfate proteoglycan (CSPG) implicated in the proliferation of neural stem and progenitor cells. Neuroglycan C is a single-pass membrane protein that can manifest as a part-time proteoglycan depending on the tissue expressing it. In its proteoglycan form, Neuroglycan C exhibits chondroitin sulfate glycans and functions as a receptor for midkine, a growth factor that binds heparin, to affect cytoskeletal changes. By means of ectodomain shedding, the ectodomain of Neuroglycan C is able to enhance neurite outgrowth from neurons. Neurite growth stimulation is affected by both an EGF-like and an acidic amino acid domain found on the shed ectodomain. Both domains instigate neurite growth, however, these domains exhibit differing functionality as to number of neurites produced and neuron types stimulated.

## REFERENCES

1. Ishikawa, K., et al. 2006. Effects of single and repeated administration of methamphetamine or morphine on neuroglycan C gene expression in the rat brain. *Int. J. Neuropsychopharmacol.* 9: 407-415.
2. Aono, S., et al. 2006. Expression and identification of a new splice variant of neuroglycan C, a transmembrane chondroitin sulfate proteoglycan, in the human brain. *J. Neurosci. Res.* 83: 110-118.
3. Ida, M., et al. 2006. Identification and functions of chondroitin sulfate in the milieu of neural stem cells. *J. Biol. Chem.* 281: 5982-5991.
4. Nakanishi, K., et al. 2006. Identification of neurite outgrowth-promoting domains of neuroglycan C, a brain-specific chondroitin sulfate proteoglycan, and involvement of phosphatidylinositol 3-kinase and protein kinase C signaling pathways in neuritogenesis. *J. Biol. Chem.* 281: 24970-24978.
5. Ichihara-Tanaka, K., et al. 2006. Neuroglycan C is a novel midkine receptor involved in process elongation of oligodendroglial precursor-like cells. *J. Biol. Chem.* 281: 30857-30864.

## CHROMOSOMAL LOCATION

Genetic locus: CSPG5 (human) mapping to 3p21.31; Cspg5 (mouse) mapping to 9 F2.

## SOURCE

Neuroglycan C (G-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Neuroglycan C of human origin.

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-66487 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

Neuroglycan C (G-19) is recommended for detection of Chondroitin sulfate proteoglycan 5 precursor (Neuroglycan C) of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

Neuroglycan C (G-19) is also recommended for detection of Chondroitin sulfate proteoglycan 5 precursor (Neuroglycan C) in additional species, including equine, canine and bovine.

Suitable for use as control antibody for Neuroglycan C siRNA (h): sc-62681, Neuroglycan C siRNA (m): sc-62682, Neuroglycan C shRNA Plasmid (h): sc-62681-SH, Neuroglycan C shRNA Plasmid (m): sc-62682-SH, Neuroglycan C shRNA (h) Lentiviral Particles: sc-62681-V and Neuroglycan C shRNA (m) Lentiviral Particles: sc-62682-V.

Molecular Weight of Neuroglycan C: 150 kDa.

Molecular Weight of Neuroglycan C core glycoprotein: 120 kDa.

Positive Controls: rat brain extract: sc-2392.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **Neuroglycan C (A-7): sc-398051**, our highly recommended monoclonal alternative to Neuroglycan C (G-19).