

NG2 (132.38): sc-33666

BACKGROUND

NG2 (also known as melanoma-associated chondroitin sulfate proteoglycan 4, MCSP, MCSPG, MSK16 and MEL-CSPG) stabilizes cell-substratum interactions during early events of melanoma cell spreading on endothelial basement membranes. NG2 may facilitate primary melanoma progression by enhancing the activation of key signaling pathways important for tumor invasion and growth. Threonine 2256 phosphorylation of rat NG2 (Threonine 2252 phosphorylation of human NG2) leads to redistribution of NG2 on the surface of astrocytomas, polarization of the cell and a significant increase in cell motility. NG2 acts as a co-receptor for spreading and focal contact formation in association with $\alpha 4 \beta 1$ Integrin in malignant melanoma cells. NG2 is present on blood vessels throughout the rat embryo. Microvessels within the rat CNS express NG2 on endothelial cells, and outside the CNS, NG2 is present on smooth muscle cells. NG2 is a novel marker for epidermal stem cells that contributes to their patterned distribution by promoting stem cell clustering.

CHROMOSOMAL LOCATION

Genetic locus: Cspg4 (mouse) mapping to 9 B.

SOURCE

NG2 (132.38) is a mouse monoclonal antibody raised against HEK293 cells expressing a truncated integral membrane form of NG2 consisting of amino acids 1592-2222 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.

NG2 (132.38) is available conjugated to agarose (sc-33666 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-33666 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-33666 PE), fluorescein (sc-33666 FITC), Alexa Fluor® 488 (sc-33666 AF488), Alexa Fluor® 546 (sc-33666 AF546), Alexa Fluor® 594 (sc-33666 AF594) or Alexa Fluor® 647 (sc-33666 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-33666 AF680) or Alexa Fluor® 790 (sc-33666 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

NG2 (132.38) is recommended for detection of NG2 of mouse and rat 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for NG2 siRNA (m): sc-40772, NG2 shRNA Plasmid (m): sc-40772-SH and NG2 shRNA (m) Lentiviral Particles: sc-40772-V.

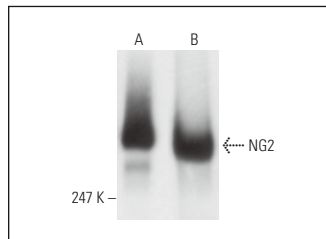
Molecular Weight of NG2: 270-300 kDa.

Positive Controls: rat brain extract: sc-2392 or rat thyroid extract: sc-2402.

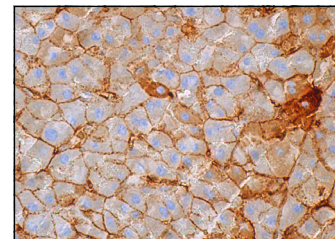
STORAGE

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

DATA



NG2 (132.38): sc-33666. Western blot analysis of NG2 expression in rat brain (A) and rat thyroid (B) tissue extracts.



NG2 (132.38): sc-33666. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse pancreas tissue showing membrane staining of exocrine glandular cells.

SELECT PRODUCT CITATIONS

- Muir, E.M., et al. 2010. Modification of N-glycosylation sites allows secretion of bacterial chondroitinase ABC from mammalian cells. *J. Biotechnol.* 145: 103-110.
- Zhao, R.R., et al. 2011. Lentiviral vectors express chondroitinase ABC in cortical projections and promote sprouting of injured corticospinal axons. *J. Neurosci. Methods* 201: 228-238.
- Bonora, M., et al. 2014. Tumor necrosis factor- α impairs oligodendroglial differentiation through a mitochondria-dependent process. *Cell Death Differ.* 21: 1198-1208.
- Alves, J.N., et al. 2014. AAV vector-mediated secretion of chondroitinase provides a sensitive tracer for axonal arborisations. *J. Neurosci. Methods* 227: 107-120.
- Carwardine, D., et al. 2016. Canine olfactory ensheathing cells from the olfactory mucosa can be engineered to produce active chondroitinase ABC. *J. Neurol. Sci.* 367: 311-318.
- Chao, F.L., et al. 2021. Fluoxetine promotes hippocampal oligodendrocyte maturation and delays learning and memory decline in APP/PS1 mice. *Front. Aging Neurosci.* 12: 627362.
- Xu, Y., et al. 2023. Single-cell transcriptomes reveal a molecular link between diabetic kidney and retinal lesions. *Commun. Biol.* 6: 912.
- Kim, H., et al. 2024. A primary culture method for the easy, efficient, and effective acquisition of oligodendrocyte lineage cells from neonatal rodent brains. *Heliyon* 10: e29359.

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.