

NG2 (G-9): sc-166251

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 (human) mapping to 15q24.2; Cspg4 (mouse) mapping to 9 B.

SOURCE

NG2 (G-9) is a mouse monoclonal antibody raised against amino acids 2023-2322 mapping at the C-terminus of NG2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NG2 (G-9) is available conjugated to agarose (sc-166251 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166251 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166251 PE), fluorescein (sc-166251 FITC), Alexa Fluor® 488 (sc-166251 AF488), Alexa Fluor® 546 (sc-166251 AF546), Alexa Fluor® 594 (sc-166251 AF594) or Alexa Fluor® 647 (sc-166251 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166251 AF680) or Alexa Fluor® 790 (sc-166251 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

NG2 (G-9) is recommended for detection of NG2 of mouse, rat and 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 NG2 siRNA (h): sc-40771, NG2 siRNA (m): sc-40772, NG2 shRNA Plasmid (h): sc-40771-SH, NG2 shRNA Plasmid (m): sc-40772-SH, NG2 shRNA (h) Lentiviral Particles: sc-40771-V and NG2 shRNA (m) Lentiviral Particles: sc-40772-V.

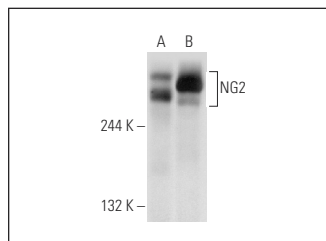
Molecular Weight of NG2: 270-300 kDa.

Positive Controls: rat thyroid extract: sc-2402, SK-MEL-24 whole cell lysate: sc-364259 or rat brain extract: sc-2392.

STORAGE

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

DATA



NG2 (G-9): sc-166251. Western blot analysis of NG2 expression in SK-MEL-24 whole cell lysate (A) and rat brain tissue extract (B).

SELECT PRODUCT CITATIONS

- Hayakawa, K., et al. 2016. CD200 restrains macrophage attack on oligodendrocyte precursors via Toll-like receptor 4 downregulation. *J. Cereb. Blood Flow Metab.* 36: 781-793.
- Schmitt, B.M., et al. 2018. Nerve/glia antigen (NG) 2 is a crucial regulator of intercellular adhesion molecule (ICAM)-1 expression. *Biochim. Biophys. Acta Mol. Cell Res.* 1865: 57-66.
- Ampofo, E., et al. 2019. Maslinic acid alleviates ischemia/reperfusion-induced inflammation by downregulation of NF κ B-mediated adhesion molecule expression. *Sci. Rep.* 9: 6119.
- Nalbach, L., et al. 2019. Nerve/glia antigen 2 is crucially involved in the revascularization of freely transplanted pancreatic islets. *Cell Tissue Res.* 378: 195-205.
- Schmitt, B.M., et al. 2020. Protein kinase CK2 regulates nerve/glia antigen (NG)2-mediated angiogenic activity of human pericytes. *Cells* 9: E1546.
- Schmitt, B.M., et al. 2021. CK2 activity mediates the aggressive molecular signature of glioblastoma multiforme by inducing nerve/glia antigen (NG)2 expression. *Cancers* 13: 1678.
- Uranowska, K., et al. 2021. Expression of chondroitin sulfate proteoglycan 4 (CSPG4) in melanoma cells is downregulated upon inhibition of BRAF. *Oncol. Rep.* 45: 14.
- Boewe, A.S., et al. 2022. Inhibition of CK2 reduces NG2 expression in juvenile angiofibroma. *Biomedicines* 10: 966.

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.

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