

# NG2 (LHM 2): sc-53389



The Power to Question

## 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 (LHM 2) is a mouse monoclonal antibody raised against A375P cell crude extract of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NG2 (LHM 2) is available conjugated to agarose (sc-53389 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53389 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53389 PE), fluorescein (sc-53389 FITC), Alexa Fluor<sup>®</sup> 488 (sc-53389 AF488), Alexa Fluor<sup>®</sup> 546 (sc-53389 AF546), Alexa Fluor<sup>®</sup> 594 (sc-53389 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-53389 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-53389 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-53389 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

NG2 (LHM 2) is recommended for detection of NG2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1  $\mu$ g per 1 x 10<sup>6</sup> cells).

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.

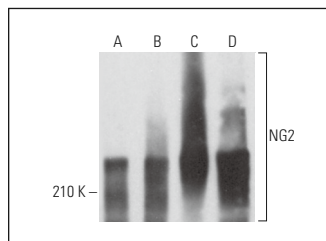
Molecular Weight of NG2: 270-300 kDa.

Positive Controls: A-673 cell lysate: sc-2414 or Sol8 cell lysate: sc-2249.

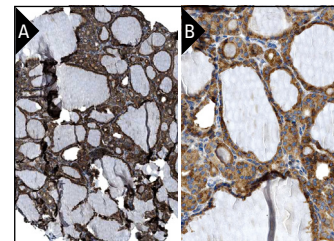
## STORAGE

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

## DATA



NG2 (LHM 2): sc-53389. Western blot analysis of NG2 expression in Sol8 (A), C6 (B), A-673 (C) and A-10 (D) whole cell lysates.



NG2 (LHM 2): sc-53389. Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing cytoplasmic and membrane staining of glandular cells at low (A) and high (B) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

## SELECT PRODUCT CITATIONS

- Yahiro, K., et al. 2011. Identification of subtilase cytotoxin (SubAB) receptors whose signaling, in association with SubAB-induced BiP cleavage, is responsible for apoptosis in HeLa cells. *Infect. Immun.* 79: 617-627.
- Ulrich, C., et al. 2015. Human placenta-derived CD146-positive mesenchymal stromal cells display a distinct osteogenic differentiation potential. *Stem Cells Dev.* 24: 1558-1569.
- Jamil, N.S., et al. 2016. Functional roles of CSPG4/NG2 in chondrosarcoma. *Int. J. Exp. Pathol.* 97: 178-186.
- Smyth, L.C.D., et al. 2018. Markers for human brain pericytes and smooth muscle cells. *J. Chem. Neuroanat.* 92: 48-60.
- Beligala, D.H., et al. 2019. Musashi-2 and related stem cell proteins in the mouse suprachiasmatic nucleus and their potential role in circadian rhythms. *Int. J. Dev. Neurosci.* 75: 44-58.
- Shin, J.H., et al. 2020. Therapeutic efficacy of human embryonic stem cell-derived multipotent stem/stromal cells in diabetic detrusor underactivity: a preclinical study. *J. Clin. Med.* 9: 2853.
- 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.
- Tang, L., et al. 2022. Isolation and characterization of peritoneal microvascular pericytes. *FEBS Open Bio.* 12: 784-797.

## RESEARCH USE

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

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