

# NG2 (4D1): sc-47718

## BACKGROUND

4D1 clone reacts with native chondroitin-4-sulfate (Ch-4-S), a D-glucuronate and N-acetylgalactosamine (GalNAc) 4-sulfate-linked disaccharide unit. Ch-4-S disaccharide units form repeating chains known as glycosaminoglycans (GAGs), which are gel-like substances found in body cells, mucous secretions and synovial fluids that influence normal function of cartilage, bone and heart valves. GAGs carry a negative charge with extended conformation that imparts high viscosity. Along with the high viscosity of GAGs comes low compressibility, which makes these molecules ideal for lubricating fluid in the joints. The majority of GAGs in the body are linked to core proteins, forming proteoglycans (mucopolysaccharides). 4D1 arose from immunization of Balb/c female mice with a versican-containing preparation from bovine aorta predigested with endo- $\beta$ -galactosidase and keratanase II. Ch-4-S is present on several proteoglycans including aggrecan, NG2, versican, brevican, decorin and biglycan.

## REFERENCES

- Morgelin, M., et al. 1992. Proteoglycans from the swarm rat chondrosarcoma. Structure of the aggregates extracted with associative and dissociative solvents as revealed by electron microscopy. *J. Biol. Chem.* 267: 14275-14284.
- Perris, R., et al. 1996. Inhibitory effects of PG-H/aggrecan and PG-M/versican on avian neural crest cell migration. *FASEB J.* 10: 293-301.

## CHROMOSOMAL LOCATION

Genetic locus: CSPG4 (human) mapping to 15q24.2; Cspg4 (mouse) mapping to 9 B.

## SOURCE

NG2 (4D1) is a mouse monoclonal antibody raised against NG2 derived from aorta tissue homogenate of bovine origin.

## PRODUCT

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

NG2 (4D1) is available conjugated to agarose (sc-47718 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-47718 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-47718 PE), fluorescein (sc-47718 FITC), Alexa Fluor<sup>®</sup> 488 (sc-47718 AF488), Alexa Fluor<sup>®</sup> 546 (sc-47718 AF546), Alexa Fluor<sup>®</sup> 594 (sc-47718 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-47718 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-47718 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-47718 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## STORAGE

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

## APPLICATIONS

NG2 (4D1) 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

NG2 (4D1) is also recommended for detection of NG2 in additional species, including bovine.

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.

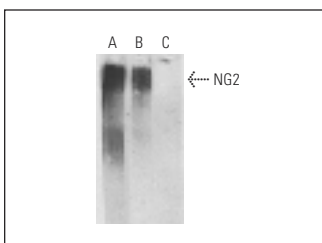
Molecular Weight of NG2: 270-300 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



NG2 (4D1): sc-47718. Western blot analysis of bovine aorta NG2 run intact (A), following endo- $\beta$ -galactosidase digestion (B) and chondroitinase ABC digestion (C). Upper smeared band is >1,200 kDa. Kindly provided by Dr. Roberto Perris, University of Parma, Italy.

## SELECT PRODUCT CITATIONS

- Fang, S.Y., et al. 2018. Reversibly immortalized hepatic progenitor cell line containing double suicide genes. *Int. J. Mol. Med.* 42: 1977-1986.

## RESEARCH USE

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