

NDRG1 (B-5): sc-398291

BACKGROUND

The N-Myc downstream regulated gene (NDRG) family is comprised of four members, NDRG1 (also designated Drg1, RTP, rit42, Cap43 and Ndr1), NDRG2, NDRG3 and NDRG4, which share 57-65% homology. The NDRG1 gene, which maps to human chromosome 8q24.22, is evolutionarily conserved and is similarly regulated in humans, mice and rats. Like NDRG2 and NDRG3, NDRG1 is ubiquitously expressed, but it is expressed most prominently in placental membranes and prostate, kidney, small intestine and ovary tissue. NDRG1 gene expression is induced by several compounds, including nickel, and produces a protein involved in stress responses, hormone responses, cell growth and differentiation. The gene encoding NDRG3 maps to human chromosome 20q11.23 and is predominantly expressed in testis, prostate and ovary, which suggests it may play a role in spermatogenesis.

REFERENCES

- van Belzen, N., et al. 1997. A novel gene which is up-regulated during colon epithelial cell differentiation and down-regulated in colorectal neoplasms. *Lab. Invest.* 77: 85-92.
- Kurdistani, S.K., et al. 1998. Inhibition of tumor cell growth by RTP/rit42 and its responsiveness to p53 and DNA damage. *Cancer Res.* 58: 4439-4444.

CHROMOSOMAL LOCATION

Genetic locus: NDRG1 (human) mapping to 8q24.22; Ndr1 (mouse) mapping to 15 D2.

SOURCE

NDRG1 (B-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-29 at the N-terminus of NDRG1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NDRG1 (B-5) is available conjugated to agarose (sc-398291 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398291 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398291 PE), fluorescein (sc-398291 FITC), Alexa Fluor® 488 (sc-398291 AF488), Alexa Fluor® 546 (sc-398291 AF546), Alexa Fluor® 594 (sc-398291 AF594) or Alexa Fluor® 647 (sc-398291 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398291 AF680) or Alexa Fluor® 790 (sc-398291 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398291 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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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.

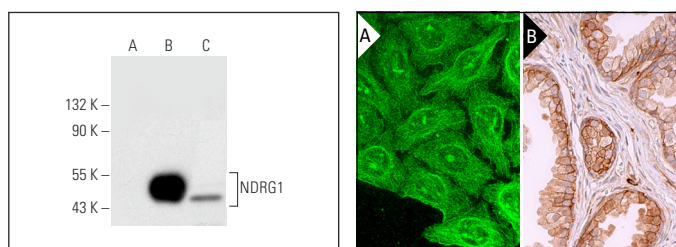
APPLICATIONS

NDRG1 (B-5) is recommended for detection of NDRG1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (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 NDRG1 siRNA (h): sc-36021, NDRG1 siRNA (m): sc-37267, NDRG1 shRNA Plasmid (h): sc-36021-SH, NDRG1 shRNA Plasmid (m): sc-37267-SH, NDRG1 shRNA (h) Lentiviral Particles: sc-36021-V and NDRG1 shRNA (m) Lentiviral Particles: sc-37267-V.

Molecular Weight of NDRG1: 43 kDa.

DATA



NDRG1 (B-5): sc-398291. Western blot analysis of NDRG1 expression in non-transfected 293T: sc-117752 (A), human NDRG1 transfected 293T: sc-172022 (B) and LNCaP (C) whole cell lysates.

NDRG1 (B-5): sc-398291. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeletal localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human prostate tissue showing cytoplasmic and membrane staining of glandular cells (B).

SELECT PRODUCT CITATIONS

- Navas-Pérez, E., et al. 2020. Characterization of an eutherian gene cluster generated after transposon domestication identifies Bex3 as relevant for advanced neurological functions. *Genome Biol.* 21: 267.
- Hira, S., et al. 2021. Dexamethasone upregulates mitochondrial Tom20, Tom70, and MnSOD through SGK1 in the kidney cells. *J. Physiol. Biochem.* 77: 1-11.
- Zhang, J., et al. 2022. Microrchidia family CW-type zinc finger 2 promotes the proliferation, invasion, migration and epithelial-mesenchymal transition of glioma by regulating PTEN/PI3K/Akt signaling via binding to N-Myc downstream regulated gene 1 promoter. *Int. J. Mol. Med.* 49: 16.
- Suh, D.K., et al. 2022. A novel muscle atrophy mechanism: myocyte degeneration due to intracellular iron deprivation. *Cells* 11: 2853.
- Wang, Z., et al. 2022. Proteomic and phosphoproteomic analyses reveal the oncogenic role of PTK7-NDRG1 axis in non-small-cell lung cancer cell resistance to AZD9291. *ACS Chem. Biol.* 17: 2849-2862.

RESEARCH USE

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