

NDRG4 (E-14): sc-165092

BACKGROUND

The N-Myc downstream regulated gene (NDRG) family is comprised of four members, namely NDRG1, NDRG2, NDRG3 and NDRG4, all of which share 57-65% homology. NDRG4 (NDRG family member 4), also known as SMAP-8 (Smooth muscle-associated protein 8) or BDM1 (Brain development-related molecule 1), is a 352 amino acid cytoplasmic protein that belongs to the NDRG family. Expressed specifically in brain and heart, NDRG4 is thought to function as a regulator of mitogenic signaling in vascular smooth muscle cells. Additionally, NDRG4 may play a role in early postnatal development and may mediate the differentiation and subsequent function of neuronal cells. NDRG4 is expressed as six isoforms (the first three of which are designated NDRG4-BVar, NDRG4-B and NDRG4-H) due to alternative splicing events.

REFERENCES

1. Zhou, R.H., et al. 2001. Characterization of the human NDRG gene family: a newly identified member, NDRG4, is specifically expressed in brain and heart. *Genomics* 73: 86-97.
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3. Qu, X., et al. 2002. Characterization and expression of three novel differentiation-related genes belong to the human NDRG gene family. *Mol. Cell. Biochem.* 229: 35-44.
4. Nishimoto, S., et al. 2003. A novel homocysteine-responsive gene, SMAP8, modulates mitogenesis in rat vascular smooth muscle cells. *Eur. J. Biochem.* 270: 2521-2531.
5. Maeda, A., et al. 2004. Genomic organization, expression, and comparative analysis of noncoding region of the rat *NdrG4* gene. *Gene* 324: 149-158.
6. Hongo, S., et al. 2006. NDRG4 enhances NGF-induced ERK activation uncoupled with Elk-1 activation. *J. Cell. Biochem.* 98: 185-193.
7. Brailoiu, G.C., et al. 2007. Smooth muscle-associated protein 8: distribution and biological activity in the rat brain. *J. Neurosci. Res.* 85: 1789-1796.
8. Qu, X., et al. 2008. NDRG4 is required for normal myocyte proliferation during early cardiac development in zebrafish. *Dev. Biol.* 317: 486-496.

CHROMOSOMAL LOCATION

Genetic locus: NDRG4 (human) mapping to 16q21; *NdrG4* (mouse) mapping to 8 D1.

SOURCE

NDRG4 (E-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of NDRG4 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-165092 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NDRG4 (E-14) is recommended for detection of NDRG4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other NDRG family members.

Suitable for use as control antibody for NDRG4 siRNA (h): sc-93374, NDRG4 siRNA (m): sc-149865, NDRG4 shRNA Plasmid (h): sc-93374-SH, NDRG4 shRNA Plasmid (m): sc-149865-SH, NDRG4 shRNA (h) Lentiviral Particles: sc-93374-V and NDRG4 shRNA (m) Lentiviral Particles: sc-149865-V.

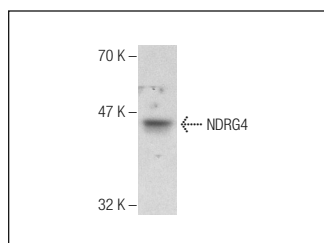
Molecular Weight of NDRG4 isoforms 1-6: 37-43 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211 or mouse kidney extract: sc-2255.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



NDRG4 (E-14): sc-165092. Western blot analysis of NDRG4 expression in mouse kidney tissue extract.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.