

NDRG4 (C-14): sc-165090

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

- Zhou, R.H., Kokame, K., Tsukamoto, Y., Yutani, C., Kato, H. and Miyata, T. 2001. Characterization of the human NDRG gene family: a newly identified member, NDRG4, is specifically expressed in brain and heart. *Genomics* 73: 86-97.
- Ohki, T., Hongo, S., Nakada, N., Maeda, A. and Takeda, M. 2002. Inhibition of neurite outgrowth by reduced level of NDRG4 protein in antisense transfected PC12 cells. *Brain Res. Dev. Brain Res.* 135: 55-63.
- Qu, X., Zhai, Y., Wei, H., Zhang, C., Xing, G., Yu, Y. and He, F. 2002. Characterization and expression of three novel differentiation-related genes belong to the human NDRG gene family. *Mol. Cell. Biochem.* 229: 35-44.
- Nishimoto, S., Tawara, J., Toyoda, H., Kitamura, K. and Komurasaki, T. 2003. A novel homocysteine-responsive gene, SMAP8, modulates mitogenesis in rat vascular smooth muscle cells. *Eur. J. Biochem.* 270: 2521-2531.
- Maeda, A., Hongo, S. and Miyazaki, A. 2004. Genomic organization, expression, and comparative analysis of noncoding region of the rat NdrG4 gene. *Gene* 324: 149-158.
- Hongo, S., Watanabe, T., Takahashi, K. and Miyazaki, A. 2006. NDRG4 enhances NGF-induced ERK activation uncoupled with Elk-1 activation. *J. Cell. Biochem.* 98: 185-193.
- Brailoiu, G.C., Dun, S.L., Mizuo, K., Brailoiu, E., Yang, J., Chang, J.K. and Dun, N.J. 2007. Smooth muscle-associated protein 8: distribution and biological activity in the rat brain. *J. Neurosci. Res.* 85: 1789-1796.
- Qu, X., Jia, H., Garrity, D.M., Tompkins, K., Batts, L., Appel, B., Zhong, T.P. and Baldwin, H.S. 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.

STORAGE

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

SOURCE

NDRG4 (C-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus 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-165090 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NDRG4 (C-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.

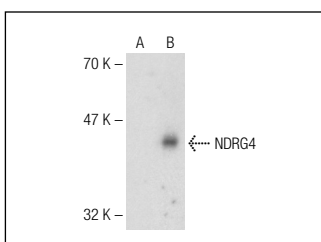
NDRG4 (C-14) is also recommended for detection of NDRG4 in additional species, including canine, bovine and porcine.

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.

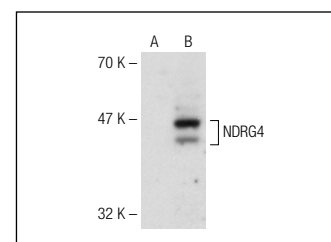
Molecular Weight of NDRG4 isoforms 1-6: 37-43 kDa.

Positive Controls: NDRG4 (h): 293T Lysate: sc-129236 or RAW 264.7 whole cell lysate: sc-2211.

DATA



NDRG4 (C-14): sc-165090. Western blot analysis of NDRG4 expression in non-transfected: sc-117752 (A) and human NDRG4 transfected: sc-129235 (B) 293T whole cell lysates.



NDRG4 (C-14): sc-165090. Western blot analysis of NDRG4 expression in non-transfected: sc-117752 (A) and human NDRG4 transfected: sc-1177608 (B) 293T whole cell lysates.

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.