

# NDRG4 (39-V): sc-100788

## 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.
2. Ohki, T., et al. 2002. Inhibition of neurite outgrowth by reduced level of NDRG4 protein in antisense transfected PC12 cells. *Brain Res. Dev. Brain Res.* 135: 55-63.
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.
9. Okuda, T., et al. 2008. Differential expression patterns of NDRG family proteins in the central nervous system. *J. Histochem. Cytochem.* 56: 175-182.

## CHROMOSOMAL LOCATION

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

## SOURCE

NDRG4 (39-V) is a mouse monoclonal antibody raised against recombinant NDRG4 of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

NDRG4 (39-V) 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

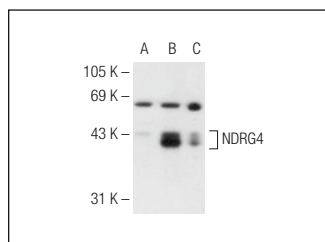
Positive Controls: RAW 264.7 whole cell lysate: sc-2211, IMR-32 cell lysate: sc-2409 or NDRG4 (h): 293T Lysate: sc-129236.

## RECOMMENDED SUPPORT REAGENTS

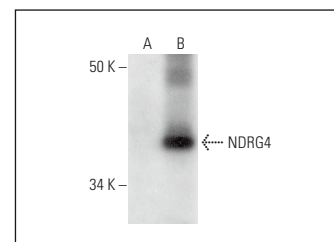
To ensure optimal results, the following support reagents are recommended:

1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® 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).

## DATA



NDRG4 (39-V): sc-100788. Western blot analysis of NDRG4 expression in non-transfected 293T: sc-117752 (A), human NDRG4 transfected 293T: sc-129236 (B) and IMR-32 (C) whole cell lysates.



NDRG4 (39-V): sc-100788. Western blot analysis of NDRG4 expression in non-transfected: sc-117752 (A) and human NDRG4 transfected: sc-369549 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Kotipatruni, R.P., et al. 2015. NDRG4 is a novel oncogenic protein and p53 associated regulator of apoptosis in malignant meningioma cells. *Oncotarget* 6: 17594-17604.

## 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.