# NDRG4 (h3): 293T Lysate: sc-177608



The Power to Question

## **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.
- 3. 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.
- 6. 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.
- 7. 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.
- 8. 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.

#### **PRODUCT**

NDRG4 (h3): 293T Lysate represents a lysate of human NDRG4 transfected 293T cells and is provided as 100  $\mu$ g protein in 200  $\mu$ l SDS-PAGE buffer.

#### **APPLICATIONS**

NDRG4 (h3): 293T Lysate is suitable as a Western Blotting positive control for human reactive NDRG4 antibodies. Recommended use: 10-20 µl per lane.

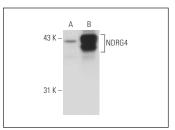
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

NDRG4 (39-V): sc-100788 is recommended as a positive control antibody for Western Blot analysis of enhanced human NDRG4 expression in NDRG4 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

## **RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-lgG $\kappa$  BP-HRP: sc-516102 or m-lgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>TM</sup> Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

## **DATA**



NDRG4 (39-V): sc-100788. Western blot analysis of NDRG4 expression in non-transfected: sc-117752 (A) and human NDRG4 transfected: sc-177608 (B) 293T whole cell Ivsates.

## **STORAGE**

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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 for detailed protocols and support products.

Santa Cruz Biotechnology, Inc. 1.800.457.3801 831.457.3800 fax 831.457.3801 Europe +00800 4573 8000 49 6221 4503 0 www.scbt.com