SANTA CRUZ BIOTECHNOLOGY, INC.

NDRG2 (H-40): sc-50345

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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. NDRG2 (NDRG family member 2), also known as SYLD, is a 371 amino acid protein that localizes to both the cytoplasm and the perinuclear region in neurons. Expressed at high levels in heart, brain, dendritic cells, salivary gland and skeletal muscle and at lower levels in liver and kidney, NDRG2 is thought to be involved in dendritic and neuronal cell differentiation and outgrowth. Additionally, NDRG2 expression is downregulated in a variety of carcinomas, including liver cancer, pancreatic cancer and meningioma, suggesting a possible role for NDRG2 in tumor suppression. NDRG2 is found in brain lesions of Alzheimer disease (AD)-affected patients and is thought to be associated with the progression of AD. Five isoforms of NDRG2 exist due to alternative splicing events.

REFERENCES

1. 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.
2. Choi, S.C., et al. 2003. Expression and regulation of NDRG2 (N-Myc downstream regulated gene 2) during the differentiation of dendritic cells. FEBS Lett. 553: 413-418.
3. Deng, Y., et al. 2003. N-Myc downstream-regulated gene 2 (NDRG2) inhibits glioblastoma cell proliferation. Int. J. Cancer 106: 342-347.
4. Mitchelmore, C., et al. 2004. NDRG2: a novel Alzheimer's disease associated protein. Neurobiol. Dis. 16: 48-58.
5. Hu, X.L., et al. 2004. NDRG2 expression and mutation in human liver and pancreatic cancers. World J. Gastroenterol. 10: 3518-3521.
6. Lusis, E.A., et al. 2005. Integrative genomic analysis identifies NDRG2 as a candidate tumor suppressor gene frequently inactivated in clinically aggressive meningioma. Cancer Res. 65: 7121-7126.
7. Lorentzen, A., et al. 2007. Expression of NDRG2 is down-regulated in high-risk adenomas and colorectal carcinoma. BMC Cancer 7: 192.
8. Wang, L., et al. 2008. NDRG2 is a new HIF-1 target gene necessary for hypoxia-induced apoptosis in A549 cells. Cell. Physiol. Biochem. 21: 239-250.

CHROMOSOMAL LOCATION

Genetic locus: NDRG2 (human) mapping to 14q11.2; Ndrg2 (mouse) mapping to 14 C2.

SOURCE

NDRG2 (H-40) is a rabbit polyclonal antibody raised against amino acids 104-143 mapping within an internal region of NDRG2 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.

APPLICATIONS

NDRG2 (H-40) is recommended for detection of NDRG2 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), 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).

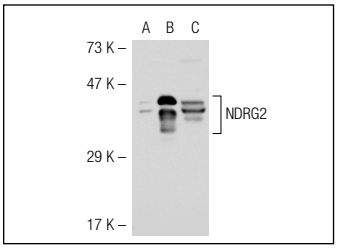
NDRG2 (H-40) is also recommended for detection of NDRG2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for NDRG2 siRNA (h): sc-40757, NDRG2 siRNA (m): sc-40758, NDRG2 shRNA Plasmid (h): sc-40757-SH, NDRG2 shRNA Plasmid (m): sc-40758-SH, NDRG2 shRNA (h) Lentiviral Particles: sc-40757-V and NDRG2 shRNA (m) Lentiviral Particles: sc-40758-V.

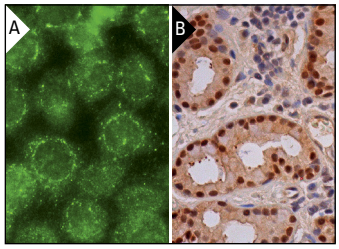
Molecular Weight of NDRG2: 41 kDa.

Positive Controls: NDRG2 (m): 293T Lysate: sc-121964, mouse brain extract: sc-2253 or rat brain extract: sc-2392.

DATA



NDRG2 (H-40): sc-50345. Western blot analysis of NDRG2 expression in non-transfected: sc-117752 (**A**) and mouse NDRG2 transfected: sc-121964 (**B**) 293T whole cell lysates and mouse brain tissue extract (**C**).



NDRG2 (H-40): sc-50345. Immunofluorescence staining of methanol-fixed HeLa cells showing perinuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human salivary gland tissue showing cytoplasmic and nuclear staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Zhu, H., et al. 2012. Ndrg2 regulates vertebral specification in differentiating somites. Dev. Biol. 369: 308-318.

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.