

NDOR1 (C-13): sc-160573

BACKGROUND

NDOR1 (NADPH dependent diflavin oxidoreductase 1), also known as NR1 (novel reductase 1), is a 597 amino acid cytoplasmic protein that contains one FAD-binding domain and one flavodoxin-like domain. Expressed at low levels in heart, brain, kidney, pancreas, prostate and skeletal muscle and at particularly high levels in placenta, NDOR1 functions as an oxidoreductase that uses FAD and FMN as cofactors to catalyze the NADP-dependent reduction of one-electron acceptors, such as cytochrome c, menadione and potassium ferricyanide. NDOR1 is present in a variety of cancer cell lines, including lung carcinoma, melanoma G361, promyelocytic leukemia, HeLa S3, chronic myelogenous leukemia, lymphoblastic leukemia, Burkitt's lymphoma and colorectal adenocarcinoma, suggesting a potent role in tumorigenesis. Two isoforms of NDOR1 are expressed due to alternative splicing events.

REFERENCES

- Paine, M.J., et al. 2000. Cloning and characterization of a novel human dual flavin reductase. *J. Biol. Chem.* 275: 1471-1478.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606073. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Olteanu, H. and Banerjee, R. 2003. Redundancy in the pathway for redox regulation of mammalian methionine synthase: reductive activation by the dual flavoprotein, novel reductase 1. *J. Biol. Chem.* 278: 38310-38314.
- Kwasnicka, D.A., et al. 2003. Coordinate expression of NADPH-dependent flavin reductase, Fre-1, and Hint-related 7meGMP-directed hydrolase, DCS-1. *J. Biol. Chem.* 278: 39051-39058.
- Kwasnicka-Crawford, D.A. and Vincent, S.R. 2005. Role of a novel dual flavin reductase (NR1) and an associated histidine triad protein (DCS-1) in menadione-induced cytotoxicity. *Biochem. Biophys. Res. Commun.* 336: 565-571.
- Amada, N., et al. 2005. Reduction of NR1 and phosphorylated Ca²⁺/calmodulin-dependent protein kinase II levels in Alzheimer's disease. *Neuroreport* 16: 1809-1813.
- Finn, R.D., et al. 2005. Identification of a functionally impaired allele of human novel oxidoreductase 1 (NDOR1), NDOR1*1. *Pharmacogenet. Genomics* 15: 381-386.

CHROMOSOMAL LOCATION

Genetic locus: NDOR1 (human) mapping to 9q34.3; Ndor1 (mouse) mapping to 2 A3.

SOURCE

NDOR1 (C-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of NDOR1 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-160573 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NDOR1 (C-13) is recommended for detection of NDOR1 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).

Suitable for use as control antibody for NDOR1 siRNA (h): sc-92596, NDOR1 siRNA (m): sc-149864, NDOR1 shRNA Plasmid (h): sc-92596-SH, NDOR1 shRNA Plasmid (m): sc-149864-SH, NDOR1 shRNA (h) Lentiviral Particles: sc-92596-V and NDOR1 shRNA (m) Lentiviral Particles: sc-149864-V.

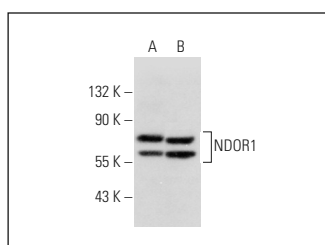
Molecular Weight of NDOR1: 67 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, NIH/3T3 whole cell lysate: sc-2210 or U-251-MG whole cell lysate: sc-364176.

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



NDOR1 (C-13): sc-160573. Western blot analysis of NDOR1 expression in NIH/3T3 (A) and U-251-MG (B) whole cell lysates.

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.