

NDUFA9 (20C11): sc-58392

BACKGROUND

NDUFA9 (NADH-ubiquinone oxidoreductase α subunit 9) is one of about 45 subunits comprising complex I of the oxidative phosphorylation electron transport chain. The multisubunit NADH:ubiquinone oxidoreductase (complex I) is the first enzyme complex in the electron transport chain of the mitochondria. NDUFA9 is a subunit of the inner membrane of complex I. Through use of chaotropic agents, complex I can be separated into three different fractions: a flavoprotein fraction, a hydrophobic protein (HP) fraction and an iron-sulfur protein (IP) fraction, which includes NDUF51-7 and NDUF5A. NDUFA9 is part of the hydrophobic protein fraction, although it is mostly hydrophilic. NDUFA9 is often used as a mitochondrial marker.

REFERENCES

1. Chow, W., et al. 1991. Determination of the cDNA sequence for the human mitochondrial 75 kDa Fe-S protein of NADH-coenzyme Q reductase. *Eur. J. Biochem.* 201: 547-550.
2. Duncan, A.M., et al. 1992. Localization of the human 75 kDa Fe-S protein of NADH-coenzyme Q reductase gene (NDUFS1) to 2q33-q34. *Cytogenet. Cell Genet.* 60: 212-213.
3. Stojanovski, D., et al. 2004. Levels of human Fis1 at the mitochondrial outer membrane regulate mitochondrial morphology. *J. Cell Sci.* 117: 1201-1210.
4. Karahan, O.I., et al. 2005. Ultrasound evaluation of peritoneal catheter tunnel in catheter related infections in CAPD. *Int. Urol. Nephrol.* 37: 363-366.
5. Martin, M.A., et al. 2005. Leigh syndrome associated with mitochondrial complex I deficiency due to a novel mutation in the NDUF51 gene. *Arch. Neurol.* 62: 659-661.
6. Smeitink, J.A., et al. 2005. Cell biological consequences of mitochondrial NADH:ubiquinone oxidoreductase deficiency. *Curr. Neurovasc. Res.* 1: 29-40.
7. Sparks, L.M., et al. 2005. A high-fat diet coordinately downregulates genes required for mitochondrial oxidative phosphorylation in skeletal muscle. *Diabetes* 54: 1926-1933.

CHROMOSOMAL LOCATION

Genetic locus: NDUFA9 (human) mapping to 12p13.32; Ndufa9 (mouse) mapping to 6 F3.

SOURCE

NDUFA9 (20C11) is a mouse monoclonal antibody raised against purified mitochondrial complex I of bovine origin.

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

NDUFA9 (20C11) is recommended for detection of NDUFA9 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

NDUFA9 (20C11) is also recommended for detection of NDUFA9 in additional species, including bovine.

Suitable for use as control antibody for NDUFA9 siRNA (h): sc-72129, NDUFA9 siRNA (m): sc-72130, NDUFA9 shRNA Plasmid (h): sc-72129-SH, NDUFA9 shRNA Plasmid (m): sc-72130-SH, NDUFA9 shRNA (h) Lentiviral Particles: sc-72129-V and NDUFA9 shRNA (m) Lentiviral Particles: sc-72130-V.

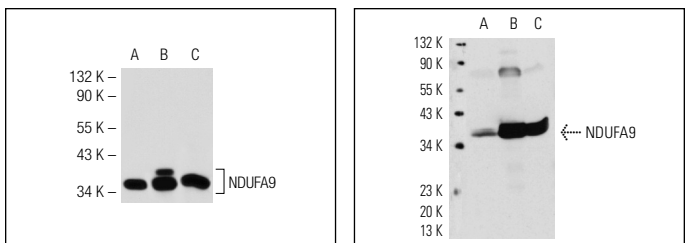
Molecular Weight of NDUFA9: 39 kDa.

Positive Controls: NDUFA9 (h): 293T Lysate: sc-111945, mouse heart extract: sc-2254 or mouse brain extract: sc-2253.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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 goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

DATA



NDUFA9 (20C11): sc-58392. Western blot analysis of NDUFA9 expression in non-transfected 293T: sc-117752 (A), human NDUFA9 transfected 293T: sc-111945 (B) and Hep G2 (C) whole cell lysates.

NDUFA9 (20C11): sc-58392. Western blot analysis of NDUFA9 expression in human heart (A) mouse heart (B) and mouse brain (C) tissue extracts.

RESEARCH USE

For research use only, not for use in diagnostic procedures.