

NDUFV3 (C-20): sc-83306

BACKGROUND

Located in the mitochondrial inner membrane, mitochondrial complex I is the first and largest enzyme in the electron transport chain of oxidative phosphorylation. By oxidizing NADH that is produced in the Krebs cycle, this complex utilizes the two electrons to reduce ubiquinone to ubiquinol, thereby initiating the passage of electrons to successive complexes and ultimately leading to the reduction of oxygen to water. Mitochondrial complex I consists of over 40 subunits and is of considerable clinical interest since defects in any one of the subunits can lead to various myopathies and neuropathies. As a subunit of mitochondrial complex I, NDUFV3 (NADH dehydrogenase [ubiquinone] flavoprotein 3), also designated NADH-ubiquinone oxidoreductase 9 kDa subunit or CI-9kD, is a 108 amino acid protein that is believed to not be involved in catalysis.

REFERENCES

1. Pilkington, S.J. and Walker, J.E. 1989. Mitochondrial NADH-ubiquinone reductase: complementary DNA sequences of import precursors of the bovine and human 24 kDa subunit. *Biochemistry* 28: 3257-3264.
2. Sled, V.D. and Vinogradov, A.D. 1993. Kinetics of the mitochondrial NADH-ubiquinone oxidoreductase interaction with hexammineruthenium(III). *Biochim. Biophys. Acta* 1141: 262-268.
3. de Coo, R.F., et al. 1997. Molecular cloning and characterization of the human mitochondrial NADH:oxidoreductase 10 kDa gene (NDUFV3). *Genomics* 45: 434-437.
4. Scanlan, M.J., et al. 1999. Antigens recognized by autologous antibody in patients with renal-cell carcinoma. *Int. J. Cancer* 83: 456-464.
5. Berry, A., et al. 2000. Refined localization of autosomal recessive nonsyndromic deafness DFNB10 locus using 34 novel microsatellite markers, genomic structure, and exclusion of six known genes in the region. *Genomics* 68: 22-29.

CHROMOSOMAL LOCATION

Genetic locus: NDUFV3 (human) mapping to 21q22.3; Ndufv3 (mouse) mapping to 17 B1.

SOURCE

NDUFV3 (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of NDUFV3 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-83306 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

NDUFV3 (C-20) is recommended for detection of NDUFV3 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); non cross-reactive with NDUFV1 or NDUFV2.

NDUFV3 (C-20) is also recommended for detection of NDUFV3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for NDUFV3 siRNA (h): sc-91451, NDUFV3 siRNA (m): sc-149893, NDUFV3 shRNA Plasmid (h): sc-91451-SH, NDUFV3 shRNA Plasmid (m): sc-149893-SH, NDUFV3 shRNA (h) Lentiviral Particles: sc-91451-V and NDUFV3 shRNA (m) Lentiviral Particles: sc-149893-V.

Molecular Weight of NDUFV3: 10 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.