

NDUFC2 (B-4): sc-377285

BACKGROUND

The multisubunit NADH:ubiquinone oxidoreductase (complex I) is the first enzyme complex in the electron transport chain of mitochondria. Through use of chaotropic agents, complex I can be separated into three different fractions: a flavoprotein fraction, an iron-sulfur protein (IP) fraction and a hydrophobic protein (HP) fraction. NDUFC2 (NADH dehydrogenase ubiquinone 1 subunit C2), also known as B14.5b or NADHDH2, is a 119 amino acid mitochondrion inner single-pass membrane protein that belongs to the complex I NDUFC2 subunit family. NDUFC2 is an accessory subunit of the mitochondrial membrane respiratory chain NADH dehydrogenase (complex I) that is not involved in catalysis. Complex I is composed of 45 different subunits and functions in the transfer of electrons from NADH to the respiratory chain. The immediate electron acceptor for the enzyme is suggested to be ubiquinone.

REFERENCES

1. Arizmendi, J.M., et al. 1992. Complementary DNA sequences of two 14.5 kDa subunits of NADH:ubiquinone oxidoreductase from bovine heart mitochondria. Completion of the primary structure of the complex? FEBS Lett. 313: 80-84.
2. Bénit, P., et al. 2001. Large-scale deletion and point mutations of the nuclear NDUFV1 and NDUFS1 genes in mitochondrial complex I deficiency. Am. J. Hum. Genet. 68: 1344-1352.
3. Smeitink, J.A., et al. 2004. Cell biological consequences of mitochondrial NADH: ubiquinone oxidoreductase deficiency. Curr. Neurovasc. Res. 1: 29-40.
4. Wang, X., et al. 2004. Duplicated Spot 14 genes in the chicken: characterization and identification of polymorphisms associated with abdominal fat traits. Gene 332: 79-88.
5. Flemming, D., et al. 2005. A possible role for iron-sulfur cluster N2 in proton translocation by the NADH: ubiquinone oxidoreductase (complex I). J. Mol. Microbiol. Biotechnol. 10: 208-222.
6. Woerner, S.M., et al. 2005. Microsatellite instability of selective target genes in HNPCC-associated colon adenomas. Oncogene 24: 2525-2535.

CHROMOSOMAL LOCATION

Genetic locus: NDUFC2 (human) mapping to 11q14.1; Ndufc2 (mouse) mapping to 7 E1.

SOURCE

NDUFC2 (B-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 5-31 near the N-terminus of NDUFC2 of human origin.

PRODUCT

Each vial contains 200 µg IgG₃ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-377285 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

NDUFC2 (B-4) is recommended for detection of NDUFC2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 NDUFC2 siRNA (h): sc-96468, NDUFC2 siRNA (m): sc-149887, NDUFC2 shRNA Plasmid (h): sc-96468-SH, NDUFC2 shRNA Plasmid (m): sc-149887-SH, NDUFC2 shRNA (h) Lentiviral Particles: sc-96468-V and NDUFC2 shRNA (m) Lentiviral Particles: sc-149887-V.

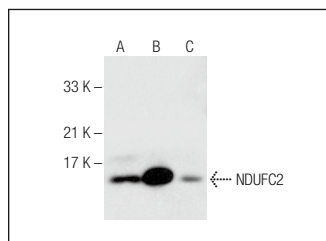
Molecular Weight of NDUFC2: 15 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, rat kidney extract: sc-2394 or human kidney extract: sc-363764.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



NDUFC2 (B-4): sc-377285. Western blot analysis of NDUFC2 expression in Hep G2 whole cell lysate (A) and rat kidney (B) and human kidney (C) tissue extracts.

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 for detailed protocols and support products.