SANTA CRUZ BIOTECHNOLOGY, INC.

NDUFC2 (C-1): sc-393771

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: Ndufc2 (mouse) mapping to 7 E1.

SOURCE

NDUFC2 (C-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1-16 at the N-terminus of NDUFC2 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 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-393771 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

NDUFC2 (C-1) is recommended for detection of NDUFC2 of mouse and rat 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 (m): sc-149887, NDUFC2 shRNA Plasmid (m): sc-149887-SH and NDUFC2 shRNA (m) Lentiviral Particles: sc-149887-V.

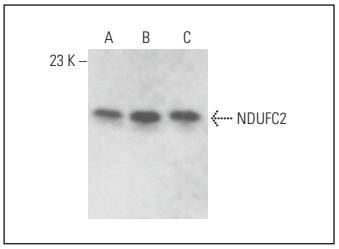
Molecular Weight of NDUFC2: 15 kDa.

Positive Controls: mouse brain extract: sc-2253, KNRK whole cell lysate: sc-2214 or rat brain extract: sc-2392.

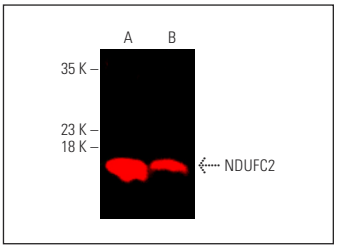
RECOMMENDED SUPPORT REAGENTS

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 (C-1): sc-393771. Western blot analysis of NDUFC2 expression in Neuro-2A (**A**) and KNRK (**B**) whole cell lysates and rat brain tissue extract (**C**).



NDUFC2 (C-1): sc-393771. Near-Infrared western blot analysis of NDUFC2 expression in mouse heart (**A**) and mouse brain (**B**) tissue extracts. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG_1 BP-CFL 790: sc-533666.

SELECT PRODUCT CITATIONS

1. Doll, D.N., et al. 2015. Mitochondrial crisis in cerebrovascular endothelial cells opens the blood-brain barrier. Stroke 46: 1681-1689.
2. Ren, X., et al. 2019. MiR-34a and stroke: assessment of non-modifiable biological risk factors in cerebral ischemia. Neurochem. Int. 127: 73-79.

STORAGE

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