SANTA CRUZ BIOTECHNOLOGY, INC.

NDUFC2 (G-9): sc-398719

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.

CHROMOSOMAL LOCATION

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

SOURCE

NDUFC2 (G-9) is a mouse monoclonal antibody raised against amino acids 1-120 representing full length NDUFC2 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NDUFC2 (G-9) is available conjugated to agarose (sc-398719 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398719 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398719 PE), fluorescein (sc-398719 FITC), Alexa Fluor® 488 (sc-398719 AF488), Alexa Fluor® 546 (sc-398719 AF546), Alexa Fluor® 594 (sc-398719 AF594) or Alexa Fluor® 647 (sc-398719 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398719 AF680) or Alexa Fluor® 790 (sc-398719 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

NDUFC2 (G-9) 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.

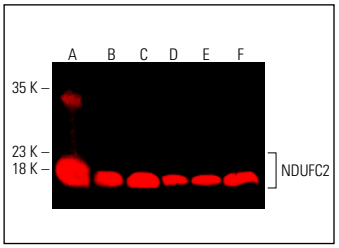
Molecular Weight of NDUFC2: 15 kDa.

Positive Controls: mouse heart extract: sc-2254, rat kidney extract: sc-2394 or Hep G2 cell lysate: sc-2227.

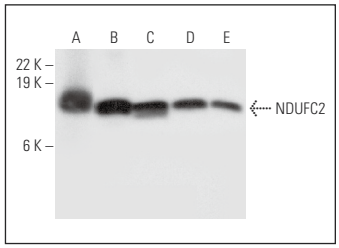
RECOMMENDED SUPPORT REAGENTS

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 (G-9): sc-398719. Near-Infrared western blot analysis of NDUFC2 expression in mouse heart (**A**) and rat kidney (**B**) tissue extracts and Hep G2 (**C**), U-87 MG (**D**), IMR-32 (**E**) and Neuro-2A (**F**) whole cell lysates. Detection reagent used: m-IgG_{2a} BP-CFL 790: sc-542740. Blocked with UltraCruz® Blocking Reagent: sc-516214.



NDUFC2 (G-9): sc-398719. Western blot analysis of NDUFC2 expression in mouse heart (**A**) and rat kidney (**B**) tissue extracts and Hep G2 (**C**), U-87 MG (**D**) and MIA PaCa-2 (**E**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Formosa, L.E., et al. 2020. Dissecting the roles of mitochondrial complex I intermediate assembly complex factors in the biogenesis of complex I. Cell Rep. 31: 107541.
2. Formosa, L.E., et al. 2021. Optic atrophy-associated TMEM126A is an assembly factor for the ND4-module of mitochondrial complex I. Proc. Natl. Acad. Sci. USA 118: e2019665118.

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.