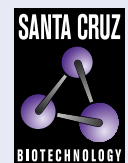


NDUFS1 (E-8): sc-271510



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. The IP fraction contains NDUFS1-7. NDUFS1, a 75 kD protein, is the largest subunit of complex I, and is thought to be the first of the Fe-S proteins to accept electrons from an NADH-flavoprotein reductase within the complex. NDUFS1 may even form part of the active site crevice where NADH is oxidized. NDUFS1 is also a critical caspase substrate in mitochondria, and caspase cleavage of NDUFS1 is required for several mitochondrial changes associated with apoptosis.

CHROMOSOMAL LOCATION

Genetic locus: NDUFS1 (human) mapping to 2q33.3; Ndufs1 (mouse) mapping to 1 C2.

SOURCE

NDUFS1 (E-8) is a mouse monoclonal antibody raised against amino acids 428-727 mapping at the C-terminus of NDUFS1 of human origin.

PRODUCT

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

NDUFS1 (E-8) is available conjugated to agarose (sc-271510 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271510 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271510 PE), fluorescein (sc-271510 FITC), Alexa Fluor® 488 (sc-271510 AF488), Alexa Fluor® 546 (sc-271510 AF546), Alexa Fluor® 594 (sc-271510 AF594) or Alexa Fluor® 647 (sc-271510 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271510 AF680) or Alexa Fluor® 790 (sc-271510 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

NDUFS1 (E-8) is recommended for detection of NDUFS1 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), immunohistochemistry (including paraffin-embedded sections) (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 NDUFS1 siRNA (h): sc-61164, NDUFS1 siRNA (m): sc-61165, NDUFS1 shRNA Plasmid (h): sc-61164-SH, NDUFS1 shRNA Plasmid (m): sc-61165-SH, NDUFS1 shRNA (h) Lentiviral Particles: sc-61164-V and NDUFS1 shRNA (m) Lentiviral Particles: sc-61165-V.

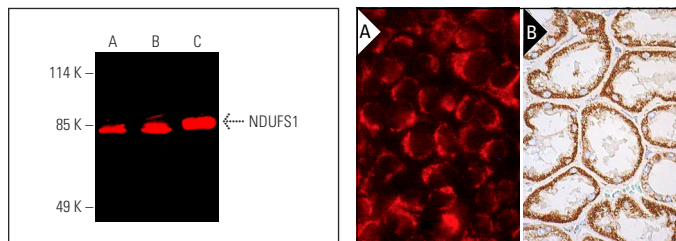
Molecular Weight of NDUFS1: 75 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, Raji whole cell lysate: sc-364236 or rat heart extract: sc-2393.

STORAGE

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

DATA



NDUFS1 (E-8): sc-271510. Near-Infrared western blot analysis of NDUFS1 expression in Raji (A) and Hep G2 (B) whole cell lysates and rat heart tissue extract (C). Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.

NDUFS1 (E-8): sc-271510. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules (B).

SELECT PRODUCT CITATIONS

- Quinlan, C.L., et al. 2014. The 2-oxoacid dehydrogenase complexes in mitochondria can produce superoxide/hydrogen peroxide at much higher rates than complex I. *J. Biol. Chem.* 289: 8312-8325.
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- Kuramoto, K., et al. 2020. Verteporfin inhibits oxidative phosphorylation and induces cell death specifically in glioma stem cells. *FEBS J.* 287: 2023-2036.
- Herrmann, A.L., et al. 2021. Delineating the switch between senescence and apoptosis in cervical cancer cells under ciclopirox treatment. *Cancers* 13: 4995.
- Jain, S., et al. 2022. Metabolic targeting of cancer by a ubiquinone uncompetitive inhibitor of mitochondrial complex I. *Cell Chem. Biol.* 29: 436-450.e15.
- Wang, J., et al. 2022. Lycopene attenuates D-galactose-induced Insulin signaling impairment by enhancing mitochondrial function and suppressing the oxidative stress/inflammatory response in mouse kidneys and livers. *Food Funct.* 13: 7720-7729.
- Luo, L., et al. 2022. Inulin-type fructans change the gut microbiota and prevent the development of diabetic nephropathy. *Pharmacol. Res.* 183: 106367.
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RESEARCH USE

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