

NDUFA5 (A-3): sc-393273

BACKGROUND

NDUFA5 (NADH-ubiquinone oxidoreductase a subunit 5), also designated Complex I-13kD-B, is one of 45 subunits comprising complex I of the oxidative phosphorylation electron transport chain. The multi-subunit NADH:ubiquinone oxidoreductase (complex I) is the first enzyme complex in the electron transport chain of the mitochondria. Complex I deficiency is the most common respiratory chain defect, resulting in various combinations of cardiac, hepatic, and renal disorders. Through use of chaotropic agents, complex I can be separated into three different fractions: a flavoprotein fraction, a hydrophobic protein (HP) fraction and an iron-sulfur protein (IP) fraction. NDUFA5 is a 116 amino acid protein that is ubiquitously expressed with highest levels in heart, skeletal muscle and brain.

REFERENCES

1. Chow, W., et al. 1991. Determination of the cDNA sequence for the human mitochondrial 75-kDa Fe-S protein of NADH-coenzyme Q reductase. *Eur. J. Biochem.* 201: 547-550.
2. Duncan, A.M., et al. 1992. Localization of the human 75-kDa Fe-S protein of NADH-coenzyme Q reductase gene (NDUFS1) to 2q33→q34. *Cytogenet. Cell Genet.* 60: 212-213.
3. Tensing, K., et al. 1999. Genomic organization of the human complex I 13-kDa subunit gene NDUFA5. *Cytogenet. Cell Genet.* 84: 125-127.
4. Stojanovski, D., et al. 2004. Levels of human Fis1 at the mitochondrial outer membrane regulate mitochondrial morphology. *J. Cell Sci.* 117: 1201-1210.

CHROMOSOMAL LOCATION

Genetic locus: NDUFA5 (human) mapping to 7q31.32; Ndufa5 (mouse) mapping to 6 A3.1.

SOURCE

NDUFA5 (A-3) is a mouse monoclonal antibody raised against amino acids 1-116 representing full length NDUFA5 of human 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.

NDUFA5 (A-3) is available conjugated to agarose (sc-393273 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393273 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393273 PE), fluorescein (sc-393273 FITC), Alexa Fluor® 488 (sc-393273 AF488), Alexa Fluor® 546 (sc-393273 AF546), Alexa Fluor® 594 (sc-393273 AF594) or Alexa Fluor® 647 (sc-393273 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393273 AF680) or Alexa Fluor® 790 (sc-393273 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

NDUFA5 (A-3) is recommended for detection of NDUFA5 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 NDUFA5 siRNA (h): sc-89625, NDUFA5 siRNA (m): sc-149872, NDUFA5 shRNA Plasmid (h): sc-89625-SH, NDUFA5 shRNA Plasmid (m): sc-149872-SH, NDUFA5 shRNA (h) Lentiviral Particles: sc-89625-V and NDUFA5 shRNA (m) Lentiviral Particles: sc-149872-V.

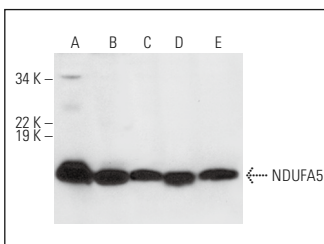
Molecular Weight of NDUFA5: 13 kDa.

Positive Controls: human heart extract: sc-363763, human kidney extract: sc-363764 or A-673 cell lysate: sc-2414.

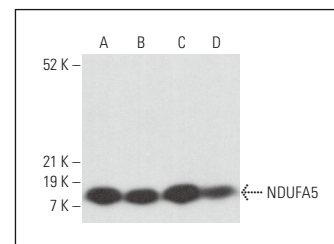
RECOMMENDED SUPPORT REAGENTS

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



NDUFA5 (A-3): sc-393273. Western blot analysis of NDUFA5 expression in human heart (A) and human kidney (B) tissue extracts and A-673 (C), Hep G2 (D) and HeLa (E) whole cell lysates.



NDUFA5 (A-3): sc-393273. Western blot analysis of NDUFA5 expression in Hep G2 (A), HeLa (B), IMR-32 (C) and NTERA-2 cl.D1 (D) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.