

NDUFB5 (F-2): sc-514245

BACKGROUND

Complex 1 (also known as NADH dehydrogenase) of the electron transport chain (respiratory chain) is an enzymatic complex that catalyzes the transfer of electrons from NADH to ubiquinone. Free energy from the reaction is conserved in the transfer of protons into the intermembrane space to create an electrochemical proton gradient, a driving force for ATP synthesis. Complex 1 is a complicated, multi-protein, L-shaped complex composed of at least 45 different subunits and located in the mitochondrial inner membrane. NDUFB5 (NADH dehydrogenase (ubiquinone) 1 β subcomplex, 5), also known as SGD8 or CI-SGD8, is a single-pass membrane protein that localizes to the mitochondrial inner membrane and functions as an accessory subunit of Complex I.

REFERENCES

1. Ton, C., et al. 1997. Identification and primary structure of five human NADH-ubiquinone oxidoreductase subunits. *Biochem. Biophys. Res. Commun.* 241: 589-594.
2. Hirst, J., et al. 2003. The nuclear encoded subunits of complex I from bovine heart mitochondria. *Biochim. Biophys. Acta* 1604: 135-150.
3. Sparks, L.M., et al. 2005. A high-fat diet coordinately downregulates genes required for mitochondrial oxidative phosphorylation in skeletal muscle. *Diabetes* 54: 1926-1933.
4. Janssen, R.J., et al. 2006. Mitochondrial complex I: structure, function and pathology. *J. Inherit. Metab. Dis.* 29: 499-515.

CHROMOSOMAL LOCATION

Genetic locus: NDUFB5 (human) mapping to 3q26.33; Ndufb5 (mouse) mapping to 3 A3.

SOURCE

NDUFB5 (F-2) is a mouse monoclonal antibody raised against amino acids 78-131 mapping within an internal region of NDUFB5 of human origin.

PRODUCT

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

NDUFB5 (F-2) is available conjugated to agarose (sc-514245 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514245 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514245 PE), fluorescein (sc-514245 FITC), Alexa Fluor® 488 (sc-514245 AF488), Alexa Fluor® 546 (sc-514245 AF546), Alexa Fluor® 594 (sc-514245 AF594) or Alexa Fluor® 647 (sc-514245 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514245 AF680) or Alexa Fluor® 790 (sc-514245 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

NDUFB5 (F-2) is recommended for detection of NDUFB5 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 NDUFB5 siRNA (h): sc-78552, NDUFB5 siRNA (m): sc-149882, NDUFB5 shRNA Plasmid (h): sc-78552-SH, NDUFB5 shRNA Plasmid (m): sc-149882-SH, NDUFB5 shRNA (h) Lentiviral Particles: sc-78552-V and NDUFB5 shRNA (m) Lentiviral Particles: sc-149882-V.

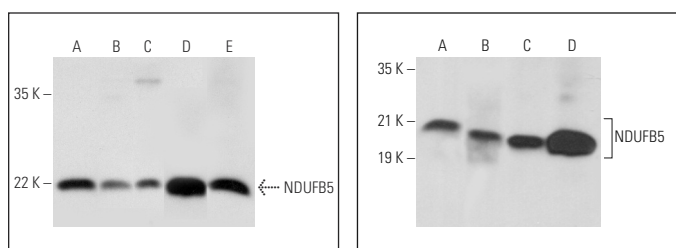
Molecular Weight of NDUFB5: 22 kDa.

Positive Controls: MOLT-4 cell lysate: sc-2233, human liver extract: sc-363766 or human heart extract: sc-363763.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



NDUFB5 (F-2): sc-514245. Western blot analysis of NDUFB5 expression in MOLT-4 (A), RT-4 (B) and U-251-MG (C) whole cell lysates and human heart (D) and human liver (E) tissue extracts.

NDUFB5 (F-2): sc-514245. Western blot analysis of NDUFB5 expression in RT-4 (A) and 3T3-L1 (B) whole cell lysates and mouse heart (C) and rat heart (D) tissue extracts.

SELECT PRODUCT CITATIONS

1. Cangelosi, D., et al. 2019. A proteomic analysis of GSD-1a in mouse livers: evidence for metabolic reprogramming, inflammation, and macrophage polarization. *J. Proteome Res.* 18: 2965-2978.
2. Chung, I.C., et al. 2019. Mitochondrial oxidative phosphorylation complex regulates NLRP3 inflammasome activation and predicts patient survival in nasopharyngeal carcinoma. *Mol. Cell. Proteomics* pii: mcp.RA119.001808.

RESEARCH USE

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