

NDUFS3 (D-4): sc-374282

BACKGROUND

NDUFS3 (NADH dehydrogenase ubiquinone iron-sulfur protein 3) is one of about 45 subunits comprising complex I of the oxidative phosphorylation electron transport chain. The multisubunit NADH: ubiquinone oxidoreductase (complex I) is the first enzyme complex in the electron transport chain of the mitochondria. NDUFS3 is the last subunit of the seven subunits that make up the core of complex I. 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 includes NDUFS1-7. NDUFS3 contains a highly conserved casein kinase II phosphorylation site. Mutations in the NDUFS3 gene may cause optic atrophy, Leigh syndrome and complex I deficiency.

CHROMOSOMAL LOCATION

Genetic locus: NDUFS3 (human) mapping to 11p11.2; Ndufs3 (mouse) mapping to 2 E1.

SOURCE

NDUFS3 (D-4) is a mouse monoclonal antibody raised against amino acids 181-248 mapping within an internal region of NDUFS3 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NDUFS3 (D-4) is available conjugated to agarose (sc-374282 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374282 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374282 PE), fluorescein (sc-374282 FITC), Alexa Fluor® 488 (sc-374282 AF488), Alexa Fluor® 546 (sc-374282 AF546), Alexa Fluor® 594 (sc-374282 AF594) or Alexa Fluor® 647 (sc-374282 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374282 AF680) or Alexa Fluor® 790 (sc-374282 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

NDUFS3 (D-4) is recommended for detection of NDUFS3 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 NDUFS3 siRNA (h): sc-75890, NDUFS3 siRNA (m): sc-75891, NDUFS3 siRNA (r): sc-270622, NDUFS3 shRNA Plasmid (h): sc-75890-SH, NDUFS3 shRNA Plasmid (m): sc-75891-SH, NDUFS3 shRNA Plasmid (r): sc-270622-SH, NDUFS3 shRNA (h) Lentiviral Particles: sc-75890-V, NDUFS3 shRNA (m) Lentiviral Particles: sc-75891-V and NDUFS3 shRNA (r) Lentiviral Particles: sc-270622-V.

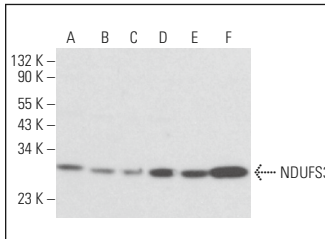
Molecular Weight of NDUFS3: 30 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, C2C12 whole cell lysate: sc-364188 or IMR-32 cell lysate: sc-2409.

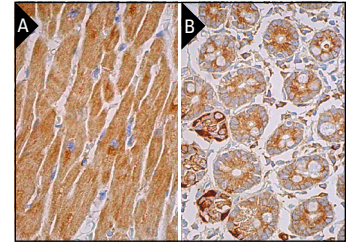
STORAGE

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

DATA



NDUFS3 (D-4): sc-374282. Western blot analysis of NDUFS3 expression in NIH/3T3 (A), L6 (B), A-10 (C), C2C12 (D), A-673 (E) and IMR-32 (F) whole cell lysates.



NDUFS3 (D-4): sc-374282. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

- Cao, L.L., et al. 2016. Control of mitochondrial function and cell growth by the atypical cadherin Fat1. *Nature* 539: 575-578.
- Lucas, S., et al. 2018. Serine catabolism is essential to maintain mitochondrial respiration in mammalian cells. *Life Sci. Alliance* 1: e201800036.
- Kim, M., et al. 2020. Sestrins are evolutionarily conserved mediators of exercise benefits. *Nat. Commun.* 11: 190.
- 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.
- Yan, X., et al. 2022. Endogenous H₂S targets mitochondria to promote continual phagocytosis of erythrocytes by microglia after intracerebral hemorrhage. *Redox Biol.* 56: 102442.
- Tsai, C.W., et al. 2022. Mechanisms and significance of tissue-specific MICU regulation of the mitochondrial calcium uniporter complex. *Mol. Cell* 82: 3661-3676.e8.
- Ren, X., et al. 2023. The Fe-S cluster assembly protein IscU2 increases α -ketoglutarate catabolism and DNA 5mC to promote tumor growth. *Cell Discov.* 9: 76.
- Lavie, J., et al. 2023. The E3 ubiquitin ligase FBXL6 controls the quality of newly synthesized mitochondrial ribosomal proteins. *Cell Rep.* 42: 112579.
- Wang, J., et al. 2023. Lycopene attenuates D-galactose-induced cognitive decline by enhancing mitochondrial function and improving insulin signaling in the brains of female CD-1 mice. *J. Nutr. Biochem.* 118: 109361.

RESEARCH USE

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

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