SANTA CRUZ BIOTECHNOLOGY, INC.

NDUFS3 (17D95): sc-58393

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

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. Benit, P., et al. 2001. Large-scale deletion and point mutations of the nuclear NDUFV1 and NDUFS1 genes in mitochondrial complex I deficiency. Am. J. Hum. Genet. 68: 1344-1352.
4. Martin, M.A., et al. 2005. Leigh syndrome associated with mitochondrial complex I deficiency due to a novel mutation in the NDUFS1 gene. Arch. Neurol. 62: 659-661.
5. Karahan, O.I., et al. 2005. Ultrasound evaluation of peritoneal catheter tunnel in catheter related infections in CAPD. Int. Urol. Nephrol. 37: 363-366.

CHROMOSOMAL LOCATION

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

SOURCE

NDUFS3 (17D95) is a mouse monoclonal antibody raised against purified mitochondrial complex I of bovine origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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.

APPLICATIONS

NDUFS3 (17D95) is recommended for detection of NDUFS3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

NDUFS3 (17D95) is also recommended for detection of NDUFS3 in additional species, including bovine.

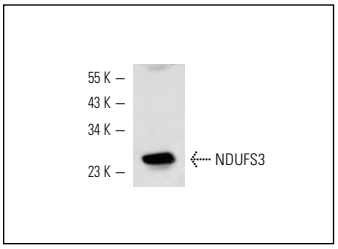
Suitable for use as control antibody for NDUFS3 siRNA (h): sc-75890, NDUFS3 siRNA (m): sc-75891, NDUFS3 shRNA Plasmid (h): sc-75890-SH, NDUFS3 shRNA Plasmid (m): sc-75891-SH, NDUFS3 shRNA (h) Lentiviral Particles: sc-75890-V and NDUFS3 shRNA (m) Lentiviral Particles: sc-75891-V.

Molecular Weight of NDUFS3: 30 kDa.

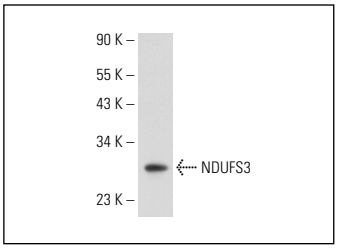
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



NDUFS3 (17D95): sc-58393. Western blot analysis of NDUFS3 expression in human heart tissue extract.



NDUFS3 (17D95): sc-58393. Western blot analysis of NDUFS3 expression in mouse heart tissue extract.

SELECT PRODUCT CITATIONS

1. Ji, B., et al. 2009. A comparative proteomics analysis of rat mitochondria from the cerebral cortex and hippocampus in response to antipsychotic medications. J. Proteome Res. 8: 3633-3641.
2. Shao, C., et al. 2009. Shotgun proteomic analysis of hibernating arctic ground squirrels. Mol. Cell. Proteomics 9: 313-326.
3. Zhou, K., et al. 2010. NMDA receptor hypofunction induces dysfunctions of energy metabolism and semaphorin signaling in rats: a synaptic proteome study. Schizophr. Bull. 38: 579-591.