SANTA CRUZ BIOTECHNOLOGY, INC.

NDUFS8 (D-5): sc-515537

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Located in the mitochondrial inner membrane, mitochondrial complex I is the first and largest enzyme in the electron transport chain of oxidative phosphorylation. By oxidizing NADH that is produced during the Krebs cycle, this complex utilizes two electrons to reduce ubiquinone to ubiquinol, thereby initiating the passage of electrons to successive complexes and ultimately leading to the reduction of oxygen to water. Mitochondrial complex I consists of over 40 subunits and is of considerable clinical interest since defects in any of the subunits can lead to various myopathies and neuropathies. As a subunit of mitochondrial complex I, NDUFS8 (NADH dehydrogenase [ubiquinone] iron-sulfur protein 8), also known as TYKY, CI-23k, CI23KD or NADH-ubiquinone oxidoreductase 23 kDa subunit, is a 210 amino acid protein that is suggested to be required for catalytic activity. Defects in the gene encoding NDUFS8 are the cause of Leigh syndrome, a severe neurological disorder that is characterized by bilaterally symmetrical necrotic lesions in subcortical brain regions.

REFERENCES

1. Hyslop, S.J., et al. 1996. Assignment of the PSST subunit gene of human mitochondrial complex I to chromosome 19p13. Genomics 37: 375-380.
2. Procaccio, V., et al. 1997. cDNA sequence and chromosomal localization of the NDUFS8 human gene coding for the 23 kDa subunit of the mitochondrial complex I. Biochim. Biophys. Acta 1351: 37-41.
3. Loeffen, J., et al. 1998. The first nuclear-encoded complex I mutation in a patient with Leigh syndrome. Am. J. Hum. Genet. 63: 1598-1608.
4. de Sury, R., et al. 1998. Genomic structure of the human NDUFS8 gene coding for the iron-sulfur TYKY subunit of the mitochondrial NADH:ubiquinone oxidoreductase. Gene 215: 1-10.
5. Triepels, R., et al. 1998. The nuclear-encoded human NADH:ubiquinone oxidoreductase NDUFA8 subunit: cDNA cloning, chromosomal localization, tissue distribution, and mutation detection in complex-I-deficient patients. Hum. Genet. 103: 557-563.

CHROMOSOMAL LOCATION

Genetic locus: NDUFS8 (human) mapping to 11q13.2; Ndufs8 (mouse) mapping to 19 A.

SOURCE

NDUFS8 (D-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 163-187 within an internal region of NDUFS8 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-515537 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

NDUFS8 (D-5) is recommended for detection of NDUFS8 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 NDUFS8 siRNA (h): sc-96551, NDUFS8 siRNA (m): sc-149890, NDUFS8 shRNA Plasmid (h): sc-96551-SH, NDUFS8 shRNA Plasmid (m): sc-149890-SH, NDUFS8 shRNA (h) Lentiviral Particles: sc-96551-V and NDUFS8 shRNA (m) Lentiviral Particles: sc-149890-V.

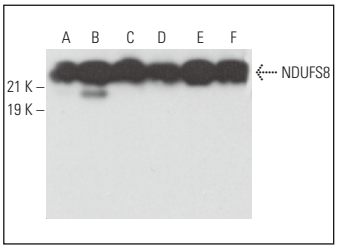
Molecular Weight of NDUFS8: 23 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, Hep G2 cell lysate: sc-2227 or HeLa whole cell lysate: sc-2200.

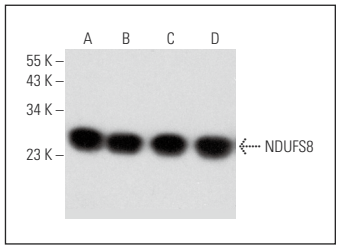
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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



NDUFS8 (D-5): sc-515537. Western blot analysis of NDUFS8 expression in Jurkat (**A**), ALL-SIL (**B**), A549 (**C**), MOLT-4 (**D**), 3T3-L1 (**E**) and A-10 (**F**) whole cell lysates.



NDUFS8 (D-5): sc-515537. Western blot analysis of NDUFS8 expression in Hep G2 (**A**), Jurkat (**B**), HeLa (**C**) and ZR-75-1 (**D**) whole cell lysates.

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.

PROTOCOLS

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