SANTA CRUZ BIOTECHNOLOGY, INC.

NDUFS8 (A-6): sc-515527

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.

CHROMOSOMAL LOCATION

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

SOURCE

NDUFS8 (A-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 163-184 within an internal region of NDUFS8 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NDUFS8 (A-6) is available conjugated to agarose (sc-515527 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515527 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515527 PE), fluorescein (sc-515527 FITC), Alexa Fluor® 488 (sc-515527 AF488), Alexa Fluor® 546 (sc-515527 AF546), Alexa Fluor® 594 (sc-515527 AF594) or Alexa Fluor® 647 (sc-515527 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515527 AF680) or Alexa Fluor® 790 (sc-515527 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-515527 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

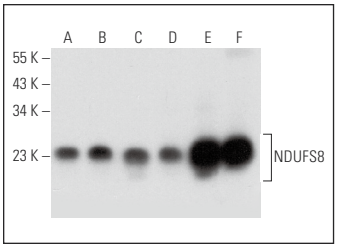
NDUFS8 (A-6) is recommended for detection of NDUFS8 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 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.

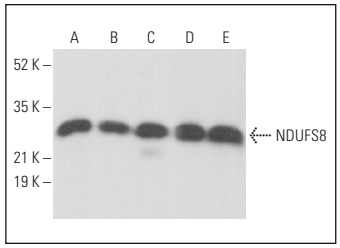
Molecular Weight of NDUFS8: 23 kDa.

Positive Controls: human heart extract: sc-363763, mouse heart extract: sc-2254 or HeLa whole cell lysate: sc-2200.

DATA



NDUFS8 (A-6): sc-515527. Western blot analysis of NDUFS8 expression in Jurkat (**A**), HeLa (**B**) and ZR-75-1 (**C**) whole cell lysates and human skeletal muscle (**D**), human heart (**E**) and mouse heart (**F**) tissue extracts.



NDUFS8 (A-6): sc-515527. Western blot analysis of NDUFS8 expression in Jurkat (**A**), Hep G2 (**B**), ALL-SIL (**C**), 3T3-L1 (**D**) and A-10 (**E**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Loewen, C.A. and Ganetzky, B. 2018. Mito-nuclear interactions affecting lifespan and neurodegeneration in a *Drosophila* model of Leigh syndrome. Genetics 208: 1535-1552.
2. Mai, N.N.H., et al. 2020. Photodynamic therapy using a novel phosphorus tetraphenylporphyrin induces an anticancer effect via Bax/Bcl-x_L-related mitochondrial apoptosis in biliary cancer cells. Acta Histochem. Cytochem. 53: 61-72.
3. D'Angelo, L., et al. 2021. NDUFS3 depletion permits complex I maturation and reveals TMEM126A/OPA7 as an assembly factor binding the ND4-module intermediate. Cell Rep. 35: 109002.

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.