SANTA CRUZ BIOTECHNOLOGY, INC.

NDUFB11 (C-7): sc-374370

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Complex I (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 I is a complicated, multi-protein, L-shaped complex composed of at least 45 different subunits and located in the mitochondrial inner membrane. NDUFB11 (NADH dehydrogenase (ubiquinone) 1 β subcomplex subunit 11), also known as ESSS, Np15, Np17.3 (neuronal protein 17.3) or p17.3, is a hydrophobic transmembrane protein belonging to the Complex I NDUFB11 subunit family. Ubiquitously expressed, NDUFB11 localizes to the inner membrane of the mitochondrion and functions as an accessory subunit of Complex I. The cAMP-dependent phosphorylation of NDUFB11 is important for the regulation of Complex I activity.

REFERENCES

1. Cui, Y., et al. 1999. Cloning and tissue expressional characterization of a full-length cDNA encoding human neuronal protein P17.3. Biochem. Genet. 37: 175-185.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 300403. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Janssen, R.J., et al. 2006. Mitochondrial Complex I: structure, function and pathology. J. Inherit. Metab. Dis. 29: 499-515.
4. Petruzzella, V., et al. 2007. The NDUFB11 gene is not a modifier in Leber hereditary optic neuropathy. Biochem. Biophys. Res. Commun. 355: 181-187.
5. Fernandez-Moreira, D., et al. 2007. X-linked NDUFA1 gene mutations associated with mitochondrial encephalomyopathy. Ann. Neurol. 61: 73-83.
6. Gurok, U., et al. 2007. Expression of NDUFA1 encoding the neuronal protein 15.6 during neurite outgrowth and development. Gene Expr. Patterns 7: 370-374.

CHROMOSOMAL LOCATION

Genetic locus: NDUFB11 (human) mapping to Xp11.23; Ndufb11 (mouse) mapping to X A1.3.

SOURCE

NDUFB11 (C-7) is a mouse monoclonal antibody raised against amino acids 1-153 representing full length NDUFB11 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain 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.

APPLICATIONS

NDUFB11 (C-7) is recommended for detection of NDUFB11 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 NDUFB11 siRNA (h): sc-90885, NDUFB11 siRNA (m): sc-149878, NDUFB11 shRNA Plasmid (h): sc-90885-SH, NDUFB11 shRNA Plasmid (m): sc-149878-SH, NDUFB11 shRNA (h) Lentiviral Particles: sc-90885-V and NDUFB11 shRNA (m) Lentiviral Particles: sc-149878-V.

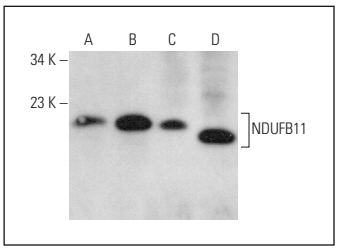
Molecular Weight of phosphorylated NDUFB: 18 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, mouse liver extract: sc-2256 or HeLa whole cell lysate: sc-2200.

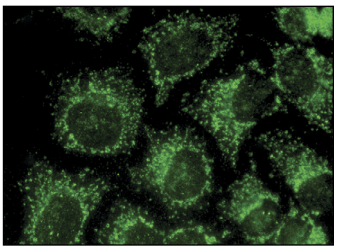
RECOMMENDED SUPPORT REAGENTS

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 A/G PLUS-Agarose: sc-2003 (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



NDUFB11 (C-7): sc-374370. Western blot analysis of NDUFB11 expression in HeLa (**A**) and K-562 (**B**) whole cell lysates and human liver (**C**) and mouse liver (**D**) tissue extracts.



NDUFB11 (C-7): sc-374370. Immunofluorescence staining of methanol-fixed HeLa cells showing mitochondrial localization.

SELECT PRODUCT CITATIONS

1. Gomes, K.P., et al. 2022. Proteomic analysis suggests altered mitochondrial metabolic profile associated with diabetic cardiomyopathy. Front. Cardiovasc. Med. 9: 791700.

RESEARCH USE

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