SANTA CRUZ BIOTECHNOLOGY, INC.

NDUFB11 (M-151): sc-292405

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 NDUFB11 encoding the neuronal protein 15.6 during neurite outgrowth and development. Gene Expr. Patterns 7: 370-374.
7. De Rasmo, D., et al. 2008. cAMP-dependent protein kinase regulates the mitochondrial import of the nuclear encoded NDUFS4 subunit of complex I. Cell. Signal. 20: 989-997.

CHROMOSOMAL LOCATION

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

SOURCE

NDUFB11 (M-151) is a rabbit polyclonal antibody raised against amino acids 1-151 representing full length NDUFB11 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

NDUFB11 (M-151) is recommended for detection of NDUFB11 of mouse, rat and, to a lesser extent, 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)], 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).

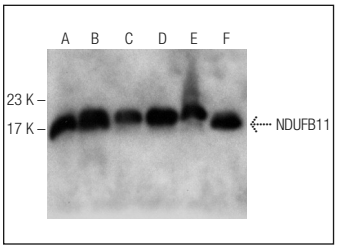
Suitable for use as control antibody for NDUFB11 siRNA (h): sc-90885, NDUFB11 siRNA (m): sc-149878, NDUFB11 shRNA Plasmid (h): sc-90885-SH, NDUFB11 shRNA Plasmid (m): sc-149878-SH, NDUFB11 shRNA (h) Lentiviral Particles: sc-90885-V and NDUFB11 shRNA (m) Lentiviral Particles: sc-149878-V.

Molecular Weight of phosphorylated NDUFB11: 18 kDa.

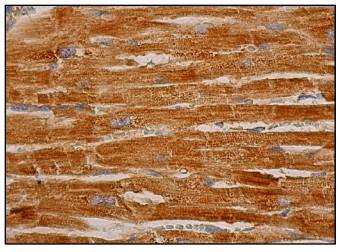
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



NDUFB11 (M-151): sc-292405. Western blot analysis of NDUFB11 expression in Hep G2 (**A**), HeLa (**B**), Jurkat (**C**), K-562 (**D**), Ramos (**E**) and PC-3 (**F**) whole cell lysates.



NDUFB11 (M-151): sc-292405. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

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.