

NDUFB11 (G-4): sc-374369

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

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3. Janssen, R.J., et al. 2006. Mitochondrial Complex I: structure, function and pathology. *J. Inher. 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 NDUF11 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 NDUF11 subunit of Complex I. *Cell. Signal.* 20: 989-997.
8. Lund, K.C., et al. 2008. Adenosine 3',5'-cyclic monophosphate (cAMP)-dependent phosphoregulation of mitochondrial Complex I is inhibited by nucleoside reverse transcriptase inhibitors. *Toxicol. Appl. Pharmacol.* 226: 94-106.

CHROMOSOMAL LOCATION

Genetic locus: NDUFB11 (human) mapping to Xp11.23.

SOURCE

NDUFB11 (G-4) is a mouse monoclonal antibody raised against amino acids 1-153 representing full length NDUFB11 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

NDUFB11 (G-4) is recommended for detection of NDUFB11 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 shRNA Plasmid (h): sc-90885-SH and NDUFB11 shRNA (h) Lentiviral Particles: sc-90885-V.

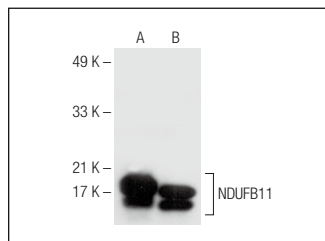
Molecular Weight of phosphorylated NDUFB11: 18 kDa.

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

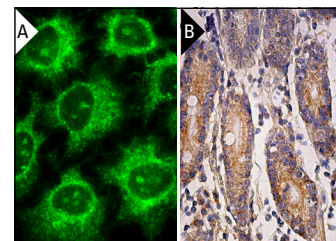
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



NDUFB11 (G-4): sc-374369. Western blot analysis of NDUFB11 expression in HeLa (A) and Hep G2 (B) whole cell lysates.



NDUFB11 (G-4): sc-374369. Immunofluorescence staining of methanol-fixed HeLa cells showing mitochondrial localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded small intestine tissue showing cytoplasmic staining of glandular cells (B).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.