SANTA CRUZ BIOTECHNOLOGY, INC.

NDUFA10 (F-4): sc-376046

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

NDUFA10 (NADH dehydrogenase (ubiquinone) 1 α subcomplex, 10), also known as CI-42KD, is a 355 amino acid protein that localizes to the mitochondrial matrix and functions as an accessory subunit of the mitochondrial membrane respiratory chain NADH dehydrogenase complex I. Complex I plays an important role in the transfer of electrons from NADH to the respiratory chain, a process that is essential for cellular respiration. NDUFA10 uses FAD as a cofactor and works in conjunction with other proteins to mediate complex I function and to ensure the proper transfer of electrons within the respiratory chain. The gene encoding NDUFA10 maps to human chromosome 2, which houses over 1,400 genes and comprises nearly 8% of the human genome. Harlequin icthyosis, a rare and morbid skin deformity, is associated with mutations in the ABCA12 gene, while the lipid metabolic disorder sitosterolemia is associated with defects in the ABCG5 and ABCG8 genes. Additionally, an extremely rare recessive genetic disorder, Alström syndrome, is caused by mutations in the ALMS1 gene, which maps to chromosome 2.

REFERENCES

1. Baens, M., et al. 1993. Construction and evaluation of a hncDNA library of human 12p transcribed sequences derived from a somatic cell hybrid. Genomics 16: 214-218.
2. Loeffen, J.L., et al. 1998. CDNA of eight nuclear encoded subunits of NADH:ubiquinone oxidoreductase: human complex I cDNA characterization completed. Biochem. Biophys. Res. Commun. 253: 415-422.
3. Smeitink, J. and van den Heuvel, L. 1999. Human mitochondrial complex I in health and disease. Am. J. Hum. Genet. 64: 1505-1510.
4. Schilling, B., et al. 2005. Mass spectrometric identification of a novel phosphorylation site in subunit NDUFA10 of bovine mitochondrial complex I. FEBS Lett. 579: 2485-2490.
5. Pocsfalvi, G., et al. 2007. Phosphorylation of B14.5a subunit from bovine heart complex I identified by titanium dioxide selective enrichment and shotgun proteomics. Mol. Cell. Proteomics 6: 231-237.
6. Palmisano, G., et al. 2007. The phosphorylation pattern of bovine heart complex I subunits. Proteomics 7: 1575-1583.

CHROMOSOMAL LOCATION

Genetic locus: NDUFA10 (human) mapping to 2q37.3; Ndufa10 (mouse) mapping to 1 D.

SOURCE

NDUFA10 (F-4) is a mouse monoclonal antibody raised against amino acids 138-247 mapping within an internal region of NDUFA10 of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

NDUFA10 (F-4) is recommended for detection of NDUFA10 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 NDUFA10 siRNA (h): sc-94344, NDUFA10 siRNA (m): sc-149867, NDUFA10 shRNA Plasmid (h): sc-94344-SH, NDUFA10 shRNA Plasmid (m): sc-149867-SH, NDUFA10 shRNA (h) Lentiviral Particles: sc-94344-V and NDUFA10 shRNA (m) Lentiviral Particles: sc-149867-V.

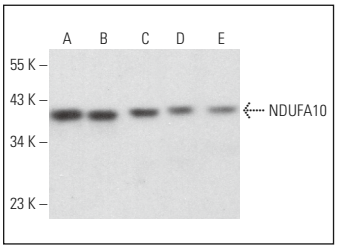
Molecular Weight of NDUFA10: 41 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or A-673 cell lysate: sc-2414.

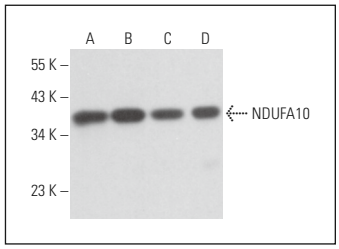
RECOMMENDED SUPPORT REAGENTS

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



NDUFA10 (F-4): sc-376046. Western blot analysis of NDUFA10 expression in HeLa (**A**), SJRH30 (**B**), C2C12 (**C**), BC_3H1 (**D**) and RAW 264.7 (**E**) whole cell lysates.



NDUFA10 (F-4): sc-376046. Western blot analysis of NDUFA10 expression in Jurkat (**A**), HeLa (**B**), A-673 (**C**) and IB4 (**D**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Hou, X., et al. 2019. Testosterone disruptor effect and gut microbiome perturbation in mice: early life exposure to doxycycline. Chemosphere 222: 722-731.

STORAGE

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