SANTA CRUZ BIOTECHNOLOGY, INC.

NDUFA10 (C-14): sc-107807

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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.

CHROMOSOMAL LOCATION

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

SOURCE

NDUFA10 (C-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of NDUFA10 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-107807 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

NDUFA10 (C-14) is recommended for detection of NDUFA10 of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other NDUFA family members.

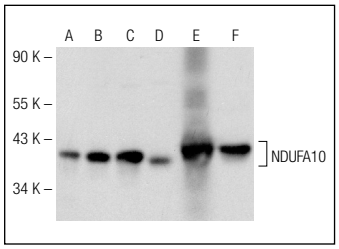
NDUFA10 (C-14)-R is also recommended for detection of NDUFA10 in additional species, including equine and porcine.

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.

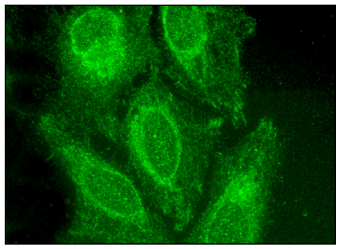
Molecular Weight of NDUFA10: 41 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or Hep G2 cell lysate: sc-2227.

DATA



NDUFA10 (C-14)-R: sc-107807-R. Western blot analysis of NDUFA10 expression in Jurkat (**A**), HeLa (**B**), Hep G2 (**C**) and A-10 (**D**) whole cell lysates and mouse heart (**E**) and mouse kidney (**F**) tissue extracts.



NDUFA10 (C-14): sc-107807. Immunofluorescence staining of formalin-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Tokarska-Schlattner, M., et al. 2010. Early effects of doxorubicin in perfused heart: transcriptional profiling reveals inhibition of cellular stress response genes. Am. J. Physiol. Regul. Integr. Comp. Physiol. 298: R1075-R1088.
2. Gratia, S., et al. 2012. Cardiac phosphoproteome reveals cell signaling events involved in doxorubicin cardiotoxicity. J. Proteomics 75: 4705-4716.

STORAGE

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

MONOS Satisfaction Guaranteed

Try **NDUFA10 (A-8): sc-376357** or **NDUFA10 (F-4): sc-376046**, our highly recommended monoclonal alternatives to NDUFA10 (C-14).