

# NDUFA10 (D-16): sc-107808

## BACKGROUND

NDUFA10 (NADH dehydrogenase (ubiquinone) 1  $\alpha$  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 ichthyosis, 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

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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 (D-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of NDUFA10 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-107808 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

NDUFA10 (D-16) 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), 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 (D-16) is also recommended for detection of NDUFA10 in additional species, including equine, canine, bovine 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, Hep G2 cell lysate: sc-2227 or HeLa whole cell lysate: sc-2200.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **NDUFA10 (A-8): sc-376357** or **NDUFA10 (F-4): sc-376046**, our highly recommended monoclonal alternatives to NDUFA10 (D-16).