

# NDUFA2 (C-16): sc-107019

## BACKGROUND

NDUFA2 (NADH dehydrogenase (ubiquinone) 1 a subcomplex, 2, 8 kDa), also known as CD14 or B8, is a 99 amino acid protein that localizes to the inner mitochondrial membrane. NDUFA2 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. Mutations in the gene encoding NDUFA2 may disrupt the function of complex I and could be involved in the pathogenesis of Leigh syndrome, a rare neuro-metabolic disorder that is characterized by a loss of motor skills and, ultimately, death.

## REFERENCES

- Walker, J.E., et al. 1992. Sequences of 20 subunits of NADH:ubiquinone oxidoreductase from bovine heart mitochondria. Application of a novel strategy for sequencing proteins using the polymerase chain reaction. *J. Mol. Biol.* 226: 1051-1072.
- Ton, C., et al. 1997. Identification and primary structure of five human NADH-ubiquinone oxidoreductase subunits. *Biochem. Biophys. Res. Commun.* 241: 589-594.
- Dunbar, D.R., et al. 1997. *In situ* hybridisation mapping of genomic clones for five human respiratory chain complex I genes. *Cytogenet. Cell Genet.* 78: 21-24.
- 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.
- Emahazion, T. and Brookes, A.J. 1998. Mapping of the NDUFA2, NDUFA6, NDUFA7, NDUFB8, and NDUFS8 electron transport chain genes by intron based radiation hybrid mapping. *Cytogenet. Cell Genet.* 82: 114.
- Brockmann, C., et al. 2004. The oxidized subunit B8 from human complex I adopts a thioredoxin fold. *Structure* 12: 1645-1654.
- Vogel, R.O., et al. 2007. Identification of mitochondrial complex I assembly intermediates by tracing tagged NDUFS3 demonstrates the entry point of mitochondrial subunits. *J. Biol. Chem.* 282: 7582-7590.
- Hoefs, S.J., et al. 2008. NDUFA2 complex I mutation leads to Leigh disease. *Am. J. Hum. Genet.* 82: 1306-1315.
- Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 602137. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: NDUFA2 (human) mapping to 5q31.3.

## SOURCE

NDUFA2 (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of NDUFA2 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-107019 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

NDUFA2 (C-16) is recommended for detection of NDUFA2 of 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).

NDUFA2 (C-16) is also recommended for detection of NDUFA2 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for NDUFA2 siRNA (h): sc-92061, NDUFA2 shRNA Plasmid (h): sc-92061-SH and NDUFA2 shRNA (h) Lentiviral Particles: sc-92061-V.

Molecular Weight of NDUFA2: 11 kDa.

## 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.