SANTA CRUZ BIOTECHNOLOGY, INC.

NDUFA2 (L-14): sc-107020

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 neurometabolic disorder that is characterized by a loss of motor skills and, ultimately, death.

REFERENCES

1. 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.
2. Ton, C., et al. 1997. Identification and primary structure of five human NADH-ubiquinone oxidoreductase subunits. Biochem. Biophys. Res. Commun. 241: 589-594.
3. 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.
4. 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.
5. 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.
6. Brockmann, C., et al. 2004. The oxidized subunit B8 from human complex I adopts a thioredoxin fold. Structure 12: 1645-1654.
7. 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.

CHROMOSOMAL LOCATION

Genetic locus: NDUFA2 (human) mapping to 5q31.3; Ndufa2 (mouse) mapping to 18 B2.

SOURCE

NDUFA2 (L-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region 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-107020 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NDUFA2 (L-14) is recommended for detection of NDUFA2 of mouse 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), 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).

NDUFA2 (L-14) is also recommended for detection of NDUFA2 in additional species, including equine, canine, bovine and porcine.

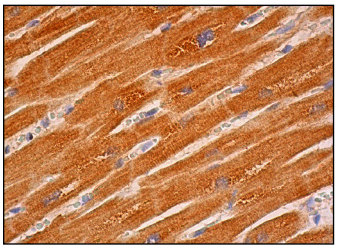
Suitable for use as control antibody for NDUFA2 siRNA (h): sc-92061, NDUFA2 siRNA (m): sc-149870, NDUFA2 shRNA Plasmid (h): sc-92061-SH, NDUFA2 shRNA Plasmid (m): sc-149870-SH, NDUFA2 shRNA (h) Lentiviral Particles: sc-92061-V and NDUFA2 shRNA (m) Lentiviral Particles: sc-149870-V.

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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



NDUFA2 (L-14): sc-107020. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

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.