

NDUFB7 (P-14): sc-168729

BACKGROUND

Complex 1 (also known as NADH dehydrogenase) of the electron transport chain (respiratory chain) is an enzymatic complex that catalyzes the transfer of electrons from NADH to ubiquinone. Free energy from the reaction is conserved in the transfer of protons into the intermembrane space to create an electrochemical proton gradient, a driving force for ATP synthesis. Complex 1 is a complicated, multi-protein, L-shaped complex composed of at least 45 different subunits and located in the mitochondrial inner membrane. NDUB7 (NADH dehydrogenase [ubiquinone] 1 β subcomplex subunit 7), also known as NADH-ubiquinone oxidoreductase B18 subunit, complex I-B18 (CI-B18) or cell adhesion protein SQM1, is a 137 amino acid accessory subunit of complex 1. Ubiquitously expressed, NDUFB7 localizes to the mitochondrial inner membrane on the matrix side. NDUFB7 contains a sevenfold repeat of positively-charged residues that may indicate a role in protein-protein interactions.

REFERENCES

1. Wong, Y.C., et al. 1990. cDNA cloning of a novel cell adhesion protein expressed in human squamous carcinoma cells. *Biochem. Biophys. Res. Commun.* 166: 984-992.
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. Emahazion, T., et al. 1998. Intron based radiation hybrid mapping of 15 complex I genes of the human electron transport chain. *Cytogenet. Cell Genet.* 82: 115-119.
4. Smeitink, J., et al. 1999. Human mitochondrial complex I in health and disease. *Am. J. Hum. Genet.* 64: 1505-1510.
5. Triepels, R., et al. 2000. Characterization of the human complex I NDUFB7 and 17.2-kDa cDNAs and mutational analysis of 19 genes of the HP fraction in complex I-deficient-patients. *Hum. Genet.* 106: 385-391.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603842. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: NDUFB7 (human) mapping to 19p13.12; Ndufb7 (mouse) mapping to 8 C2.

SOURCE

NDUFB7 (P-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of NDUFB7 of human origin.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

PRODUCT

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

Blocking peptide available for competition studies, sc-168729 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NDUFB7 (P-14) is recommended for detection of NDUFB7 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), 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); non cross-reactive with other NDUFB family members.

Suitable for use as control antibody for NDUFB7 siRNA (h): sc-97267, NDUFB7 siRNA (m): sc-149884, NDUFB7 shRNA Plasmid (h): sc-97267-SH, NDUFB7 shRNA Plasmid (m): sc-149884-SH, NDUFB7 shRNA (h) Lentiviral Particles: sc-97267-V and NDUFB7 shRNA (m) Lentiviral Particles: sc-149884-V.

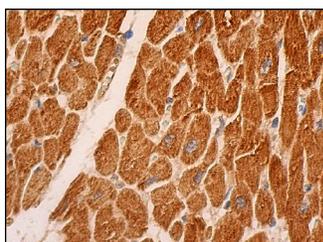
Molecular Weight of NDUFB7: 16 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201.

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



NDUFB7 (P-14): sc-168729. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

RESEARCH USE

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