

# NDUFS1 (Y-18): sc-50133

## BACKGROUND

The multisubunit NADH:ubiquinone oxidoreductase (complex I) is the first enzyme complex in the electron transport chain of mitochondria. Through use of chaotropic agents, complex I can be separated into three different fractions: a flavoprotein fraction, an iron-sulfur protein (IP) fraction and a hydrophobic protein (HP) fraction. The IP fraction contains NDUFS1-7. NDUFS1, a 75 kDa protein, is the largest subunit of complex I, and is thought to be the first of the Fe-S proteins to accept electrons from an NADH-flavoprotein reductase within the complex. NDUFS1 may even form part of the active site crevice where NADH is oxidized. NDUFS1 is also a critical caspase substrate in mitochondria, and caspase cleavage of NDUFS1 is required for several mitochondrial changes associated with apoptosis.

## REFERENCES

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2. Duncan, A.M., et al. 1992. Localization of the human 75-kDa Fe-S protein of NADH-coenzyme Q reductase gene (NDUFS1) to 2q33-q34. *Cytogenet. Cell Genet.* 60: 212-213.
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4. Karahan, O.I. et al. 2005. Ultrasound evaluation of peritoneal catheter tunnel in catheter related infections in CAPD. *Int. Urol. Nephrol.* 37: 363-366.
5. Martin, M.A., et al. 2005. Leigh syndrome associated with mitochondrial complex I deficiency due to a novel mutation in the NDUFS1 gene. *Arch. Neurol.* 62: 659-661.
6. Smeitink, J.A., et al. 2005. Cell biological consequences of mitochondrial NADH: ubiquinone deficiency. *Curr. Neurovasc. Res.* 1: 29-40.
7. Sparks, L.M., et al. 2005. A high-fat diet coordinately downregulates genes required for mitochondrial oxidative phosphorylation in skeletal muscle. *Diabetes* 54: 1926-1933.
8. Gostimskaya, I.S., et al. 2006. Topography and chemical reactivity of the active-inactive transition-sensitive SH-group in the mitochondrial NADH: ubiquinone oxidoreductase (complex I). *Biochim. Biophys. Acta* 1757: 1155-1161.

## CHROMOSOMAL LOCATION

Genetic locus: NDUFS1 (human) mapping to 2q33.3; Ndufs1 (mouse) mapping to 1 C2.

## SOURCE

NDUFS1 (Y-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of NDUFS1 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.

## 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-50133 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

NDUFS1 (Y-18) is recommended for detection of NDUFS1 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).

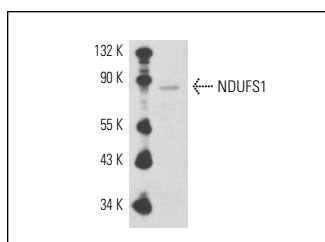
NDUFS1 (Y-18) is also recommended for detection of NDUFS1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for NDUFS1 siRNA (h): sc-61164, NDUFS1 siRNA (m): sc-61165, NDUFS1 shRNA Plasmid (h): sc-61164-SH, NDUFS1 shRNA Plasmid (m): sc-61165-SH, NDUFS1 shRNA (h) Lentiviral Particles: sc-61164-V and NDUFS1 shRNA (m) Lentiviral Particles: sc-61165-V.

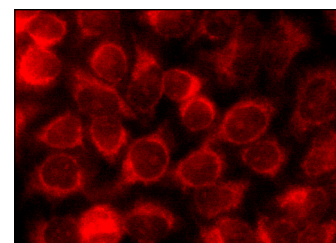
Molecular Weight of NDUFS1: 75 kDa.

Positive Controls: mouse heart extract: sc-2254 or HeLa whole cell lysate: sc-2200.

## DATA



NDUFS1 (Y-18): sc-50133. Western blot analysis of NDUFS1 expression in mouse heart tissue extract.



NDUFS1 (Y-18): sc-50133. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

## 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 **NDUFS1 (E-8): sc-271510** or **NDUFS1 (G-6): sc-271387**, our highly recommended monoclonal alternatives to NDUFS1 (Y-18).