

NDUFS3 (K-16): sc-83432

BACKGROUND

NDUFS3 (NADH dehydrogenase ubiquinone iron-sulfur protein 3) is one of about 45 subunits comprising complex I of the oxidative phosphorylation electron transport chain. The multisubunit NADH: ubiquinone oxidoreductase (complex I) is the first enzyme complex in the electron transport chain of the mitochondria. NDUFS3 is the last subunit of the seven subunits that make up the core of complex I. 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 includes NDUFS1-7. NDUFS3 contains a highly conserved casein kinase II phosphorylation site. Mutations in the NDUFS3 gene may cause optic atrophy, Leigh syndrome and complex I deficiency.

REFERENCES

1. Chow, W., Ragan, I. and Robinson, B.H. 1991. Determination of the cDNA sequence for the human mitochondrial 75 kDa Fe-S protein of NADH-coenzyme Q reductase. *Eur. J. Biochem.* 201: 547-550.
2. Loeffen, J., van den Heuvel, L., Smeets, R., Triepels, R., Sengers, R., Trijbels, F. and Smeitink, J. 1998. cDNA sequence and chromosomal localization of the remaining three human nuclear encoded iron sulphur protein (IP) subunits of complex I: the human IP fraction is completed. *Biochem. Biophys. Res. Commun.* 247: 751-758.
3. Benit, P., Slama, A., Cartault, F., Giurgea, I., Chretien, D., Lebon, S., Marsac, C., Munnich, A., Rötig, A. and Rustin, P. 2004. Mutant NDUFS3 subunit of mitochondrial complex I causes Leigh syndrome. *J. Med. Genet.* 41: 14-17.
4. Karahan, O.I., Taskapan, H., Yikilmaz, A., Oymak, O. and Utas, C. 2005. Ultrasound evaluation of peritoneal catheter tunnel in catheter related infections in CAPD. *Int. Urol. Nephrol.* 37: 363-366.
5. Martin, M.A., Blázquez, A., Gutierrez-Solana, L.G., Fernández-Moreira, D., Briones, P., Andreu, A.L., Garesse, R., Campos, Y. and Arenas, J. 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., van den Heuvel, L.W., Koopman, W.J., Nijtmans, L.G., Ugalde, C. and Willems, P.H. 2005. Cell biological consequences of mitochondrial NADH: ubiquinone oxidoreductase deficiency. *Curr. Neurovasc. Res.* 1: 29-40.

CHROMOSOMAL LOCATION

Genetic locus: NDUFS3 (human) mapping to 11p11.2; (mouse) mapping to 2 E1.

SOURCE

NDUFS3 (K-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of NDUFS3 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-83432 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NDUFS3 (K-16) is recommended for detection of NDUFS3 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 NDUFS family members.

NDUFS3 (K-16) is also recommended for detection of NDUFS3 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for NDUFS3 siRNA (h): sc-75890, NDUFS3 siRNA (m): sc-75891, NDUFS3 shRNA Plasmid (h): sc-75890-SH, NDUFS3 shRNA Plasmid (m): sc-75891-SH, NDUFS3 shRNA (h) Lentiviral Particles: sc-75890-V and NDUFS3 shRNA (m) Lentiviral Particles: sc-75891-V.

Molecular Weight of NDUFS3: 30 kDa.

Positive Controls: human heart extract: sc-363763 or mouse heart extract: sc-2254.

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.

RESEARCH USE

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

PROTOCOLS

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


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Try **NDUFS3 (D-4): sc-374282**, our highly recommended monoclonal alternative to NDUFS3 (K-16).