

NDUFA4 (2G7): sc-517091

BACKGROUND

NDUFA4 (NADH dehydrogenase (ubiquinone) 1 α subcomplex, 4), also known as MLRQ, is an 81 amino acid protein that localizes to the matrix side of the inner mitochondrial membrane and belongs to the complex I NDUFA4 subunit family. Existing as a subunit of the multi-protein membrane respiratory chain NADH dehydrogenase complex (complex I), NDUFA4 functions as an accessory protein that facilitates the transfer of electrons from NADH to the respiratory chain. The gene encoding NDUFA7 maps to human chromosome 7, which houses over 1,000 genes and comprises nearly 5% of the human genome. Defects in some of the genes localized to chromosome 7 have been linked to osteogenesis imperfecta, Williams-Beuren syndrome, Pendred syndrome, lissencephaly, citrullinemia and Shwachman-Diamond syndrome.

REFERENCES

- Kim, J.W., et al. 1997. Cloning of the human cDNA sequence encoding the NADH:ubiquinone oxidoreductase MLRQ subunit. *Biochem. Mol. Biol. Int.* 43: 669-675.
- 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.
- Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 603833. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Lamhonwah, A.M. and Tein, I. 2006. Novel localization of OCTN1, an organic cation/carnitine transporter, to mammalian mitochondria. *Biochem. Biophys. Res. Commun.* 345: 1315-1325.
- Mishmar, D., et al. 2006. Adaptive selection of mitochondrial complex I subunits during primate radiation. *Gene* 378: 11-18.

CHROMOSOMAL LOCATION

Genetic locus: NDUFA4 (human) mapping to 7p21.3.

SOURCE

NDUFA4 (2G7) is a mouse monoclonal antibody raised against amino acids 1-81 representing full length NDUFA4 of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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 for detailed protocols and support products.

APPLICATIONS

NDUFA4 (2G7) is recommended for detection of NDUFA4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for NDUFA4 siRNA (h): sc-89744, NDUFA4 shRNA Plasmid (h): sc-89744-SH and NDUFA4 shRNA (h) Lentiviral Particles: sc-89744-V.

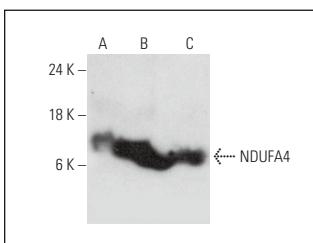
Molecular Weight of NDUFA4: 9 kDa.

Positive Controls: SW480 cell lysate: sc-2219, T98G cell lysate: sc-2294 or HeLa whole cell lysate: sc-2200.

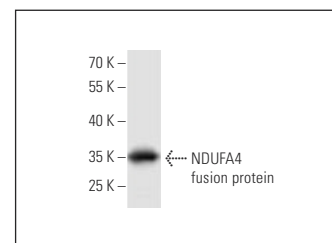
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG λ BP-HRP: sc-516132 or m-IgG λ BP-HRP (Cruz Marker): sc-516132-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



NDUFA4 (2G7): sc-517091. Western blot analysis of NDUFA4 expression in SW480 (A), HeLa (B) and T98G (C) whole cell lysates.



NDUFA4 (2G7): sc-517091. Western blot analysis of human recombinant NDUFA4 fusion protein.

SELECT PRODUCT CITATIONS

- Lei, L., et al. 2017. Targeted expression of miR-7 operated by TTF-1 promoter inhibited the growth of human lung cancer through the NDUFA4 pathway. *Mol. Ther. Nucleic Acids* 6: 183-197.
- Lee, C.Q.E., et al. 2021. Coding and non-coding roles of MOCCI (C15ORF48) coordinate to regulate host inflammation and immunity. *Nat. Commun.* 12: 2130.
- Papadaki, V., et al. 2023. IQGAP1 mediates the communication between the nucleus and the mitochondria via NDUF54 alternative splicing. *NAR Cancer* 5: zcad046.

RESEARCH USE

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