

NDUFA3 (B-12): sc-365351

BACKGROUND

NDUFA3 (NADH dehydrogenase (ubiquinone) 1 α subcomplex, 3), also known as B9, is one of about 45 subunits comprising Complex I of the oxidative phosphorylation electron transport chain. Consisting of 84 amino acids and belonging to the Complex I NDUFA3 subunit family, NDUFA3 functions as an accessory subunit of the multi-protein mitochondrial membrane respiratory chain NADH dehydrogenase complex (known as 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. The gene encoding NDUFA3 maps to human chromosome 19, which consists of over 63 million bases, houses approximately 1,400 genes and is recognized for having the greatest gene density of the human chromosomes. It is the genetic home for a number of immunoglobulin (Ig) superfamily members, including the killer cell and leukocyte Ig-like receptors, a number of ICAMs, the CEACAM and PSG family and Fc receptors (FcRs).

REFERENCES

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- Teglund, S., et al. 1994. The pregnancy-specific glycoprotein (PSG) gene cluster on human chromosome 19: fine structure of the 11 PSG genes and identification of 6 new genes forming a third subgroup within the carcinoembryonic antigen (CEA) family. *Genomics* 23: 669-684.
- 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: 603832. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Wang, L., et al. 2000. C-CAM1, a candidate tumor suppressor gene, is abnormally expressed in primary lung cancers. *Clin. Cancer Res.* 6: 2988-2993.

CHROMOSOMAL LOCATION

Genetic locus: NDUFA3 (human) mapping to 19q13.42; Ndufa3 (mouse) mapping to 7 A1.

SOURCE

NDUFA3 (B-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 39-63 within an internal region of NDUFA3 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₃ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-365351 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

NDUFA3 (B-12) is recommended for detection of NDUFA3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

Suitable for use as control antibody for NDUFA3 siRNA (h): sc-97393, NDUFA3 siRNA (m): sc-149871, NDUFA3 shRNA Plasmid (h): sc-97393-SH, NDUFA3 shRNA Plasmid (m): sc-149871-SH, NDUFA3 shRNA (h) Lentiviral Particles: sc-97393-V and NDUFA3 shRNA (m) Lentiviral Particles: sc-149871-V.

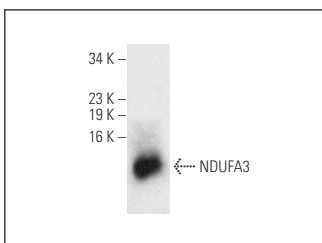
Molecular Weight of NDUFA3: 9 kDa.

Positive Controls: mouse heart extract: sc-2254.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-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). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



NDUFA3 (B-12): sc-365351. Western blot analysis of NDUFA3 expression in mouse heart tissue extract.

SELECT PRODUCT CITATIONS

- O'Sell, J., et al. 2024. Disruption of perinatal myeloid niches impacts the aging clock of pancreatic β cells. *iScience* 27: 110644.

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.