

# NDUFB3 (G-9): sc-398174

## 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. NDUFB3 (NADH dehydrogenase (ubiquinone) 1 $\beta$  subcomplex subunit 3), also known as B12, is a 98 amino acid hydrophobic protein belonging to the Complex I NDUFB3 subunit family. Ubiquitously expressed, NDUFB3 localizes to the matrix side of the inner membrane of the mitochondrion and functions as an accessory subunit of Complex I.

## REFERENCES

1. Ton, C., et al. 1997. Identification and primary structure of five human NADH-ubiquinone oxidoreductase subunits. *Biochem. Biophys. Res. Commun.* 241: 589-594.
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. Hadano, S., et al. 2001. Cloning and characterization of three novel genes, ALS2CR1, ALS2CR2, and ALS2CR3, in the juvenile amyotrophic lateral sclerosis (ALS2) critical region at chromosome 2q33-q34: candidate genes for ALS2. *Genomics* 71: 200-213.
4. Jensen, L.L., et al. 2001. Assignment of human NADH dehydrogenase (ubiquinone) 1 $\beta$  subcomplex 3 (NDUFB3) and of its four pseudogenes to human chromosomes 2q31.3, 1p13.3→p13.1, 9q32→q34.1, 14q22.3→q23.1 and 14q32.2 by radiation hybrid mapping. *Cytogenet. Cell Genet.* 93: 147-150.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603839. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: NDUFB3 (human) mapping to 2q33.1; Ndufb3 (mouse) mapping to 1 C1.3.

## SOURCE

NDUFB3 (G-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 9-28 near the N-terminus of NDUFB3 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG $_1$  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-398174 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

NDUFB3 (G-9) is recommended for detection of NDUFB3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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 NDUFB3 siRNA (h): sc-94549, NDUFB3 siRNA (m): sc-149880, NDUFB3 shRNA Plasmid (h): sc-94549-SH, NDUFB3 shRNA Plasmid (m): sc-149880-SH, NDUFB3 shRNA (h) Lentiviral Particles: sc-94549-V and NDUFB3 shRNA (m) Lentiviral Particles: sc-149880-V.

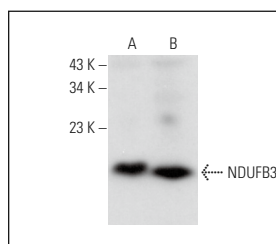
Molecular Weight of NDUFB3: 12 kDa.

Positive Controls: human heart extract: sc-363763, mouse postnatal heart tissue extract or rat heart extract: sc-2393.

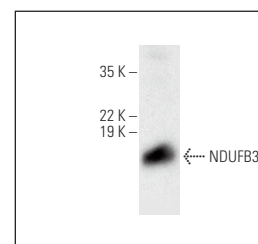
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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



NDUFB3 (G-9): sc-398174. Western blot analysis of NDUFB3 expression in mouse postnatal heart (A) and rat heart (B) tissue extracts.



NDUFB3 (G-9): sc-398174. Western blot analysis of NDUFB3 expression in human heart tissue extract.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.