SANTA CRUZ BIOTECHNOLOGY, INC.

NDUFB4 (P-12): sc-100057

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The Power to Question

BACKGROUND

NDUFB4 (NADH dehydrogenase (ubiquinone) 1β subcomplex, 4), also known as B15 or CI-B15, is a 129 amino acid single-pass membrane protein. Localized to the matrix side of the inner mitochondrial membrane, NDUFB4 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 NDUFB4 maps to human chromosome 3, which houses over 1,100 genes, including a chemokine receptor (CKR) gene cluster and a variety of human cancer-related gene loci. Key tumor suppressing genes on chromosome 3 include those that encode the apoptosis mediator RASSF1, the cell migration regulator HYAL1 and the angiogenesis suppressor SEMA3B. Marfan syndrome, porphyria, von Hippel-Lindau syndrome, osteogenesis imperfecta and Charcot-Marie-Tooth disease are a few of the numerous genetic diseases associated with chromosome 3.

REFERENCES

1. 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.
2. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 603840. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Murray, J., et al. 2003. Oxidative damage to mitochondrial complex I due to peroxynitrite: identification of reactive tyrosines by mass spectrometry. J. Biol. Chem. 278: 37223-37230.
4. Braga, E.A., et al. 2003. New tumor suppressor genes in hot spots of human chromosome 3: new methods of identification. Mol. Biol. 37: 194-211.
5. Tsend-Ayush, E., et al. 2004. Plasticity of human chromosome 3 during primate evolution. Genomics 83: 193-202.
6. Yue, Y., et al. 2005. Comparative cytogenetics of human chromosome 3q21.3 reveals a hot spot for ectopic recombination in hominoid evolution. Genomics 85: 36-47.
7. Ma, J., et al. 2007. Identifying leukocyte gene expression patterns associated with plasma lipid levels in human subjects. Atherosclerosis 191: 63-72.
8. Parikh, H., et al. 2008. Molecular correlates for maximal oxygen uptake and type 1 fibers. Am. J. Physiol. Endocrinol. Metab. 294: E1152-E1159.

CHROMOSOMAL LOCATION

Genetic locus: NDUFB4 (human) mapping to 3q13.33.

SOURCE

NDUFB4 (P-12) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of NDUFB4 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 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-100057 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

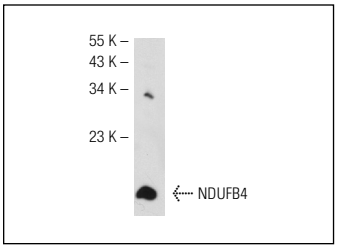
NDUFB4 (P-12) is recommended for detection of NDUFB4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 NDUFB family members.

Suitable for use as control antibody for NDUFB4 siRNA (h): sc-78337, NDUFB4 shRNA Plasmid (h): sc-78337-SH and NDUFB4 shRNA (h) Lentiviral Particles: sc-78337-V.

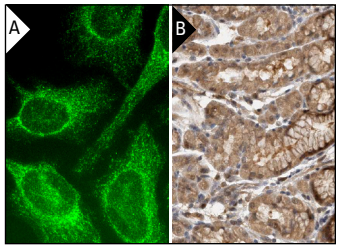
Molecular Weight of NDUFB4: 15 kDa.

Positive Controls: Ramos cell lysate: sc-2216.

DATA



NDUFB4 (P-12): sc-100057. Western blot analysis of NDUFB4 expression in Ramos whole cell lysate.



NDUFB4 (P-12): sc-100057. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human stomach showing cytoplasmic and nuclear staining of glandular cells at high magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

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.