

NDUFA12 (C-12): sc-248062

BACKGROUND

NDUFA12 (NADH dehydrogenase [ubiquinone] 1 α subcomplex subunit 12), also known as DAP13 (13 kDa differentiation-associated protein) or NADH-ubiquinone oxidoreductase subunit B17.2, or Cl-B17.2 (complex I-B17.2), is a 145 amino acid peripheral membrane protein that localizes to the matrix side of the mitochondrial inner membrane. A member of the complex I NDUFA12 subunit family, NDUFA12 is a subunit of a respiratory chain complex. The gene encoding NDUFA12 maps to human chromosome 12, which encodes over 1,100 genes and comprises approximately 4.5% of the human genome. Chromosome 12 is associated with a variety of diseases and afflictions, including hypochondrogenesis, achondrogenesis, Kniest dysplasia, Noonan syndrome and trisomy 12p, which causes facial developmental defects and seizure disorders.

REFERENCES

1. Skehel, J.M., Fearnley, I.M. and Walker, J.E. 1998. NADH: ubiquinone oxidoreductase from bovine heart mitochondria: sequence of a novel 17.2-kDa subunit. *FEBS Lett.* 438: 301-305.
2. Triepels, R., Smeitink, J., Loeffen, J., Smeets, R., Trijbels, F. and van den Heuvel, L. 2000. Characterization of the human complex I NDUFB7 and 17.2-kDa cDNAs and mutational analysis of 19 genes of the HP fraction in complex I-deficient-patients. *Hum. Genet.* 106: 385-391.
3. Delgado Carrasco, J., Casanova Morcillo, A., Zabalza Alvillos, M. and Ayala Garces, A. 2001. Achondrogenesis type II-hypochondrogenesis: radiological features. *Case report. An. Esp. Pediatr.* 55: 553-557.
4. Yokoyama, T., Nakatani, S. and Murakami, A. 2003. A case of Kniest dysplasia with retinal detachment and the mutation analysis. *Am. J. Ophthalmol.* 136: 1186-1188.
5. Murray, J., Zhang, B., Taylor, S.W., Oglesbee, D., Fahy, E., Marusich, M.F., Ghosh, S.S. and Capaldi, R.A. 2003. The subunit composition of the human NADH dehydrogenase obtained by rapid one-step immunopurification. *J. Biol. Chem.* 278: 13619-13622.
6. Forzano, F., Lituania, M., Viassolo, A., Superti-Furga, V., Wildhardt, G., Zabel, B. and Faravelli, F. 2007. A familial case of achondrogenesis type II caused by a dominant COL2A1 mutation and "patchy" expression in the mosaic father. *Am. J. Med. Genet. A* 143A: 2815-2820.
7. Wainwright, H. and Beighton, P. 2008. Visceral manifestations of hypochondrogenesis. *Virchows Arch.* 453: 203-207.
8. Lo, F.S., Luo, J.D., Lee, Y.J., Shu, S.G., Kuo, M.T. and Chiou, C.C. 2009. High resolution melting analysis for mutation detection for PTPN11 gene: applications of this method for diagnosis of Noonan syndrome. *Clin. Chim. Acta* 409: 75-77.
9. Benussi, D.G., Costa, P., Zollino, M., Murdolo, M., Petix, V., Carrozzi, M. and Pecile, V. 2009. Trisomy 12p and monosomy 4p: phenotype-genotype correlation. *Genet. Test. Mol. Biomarkers* 13: 199-204.

CHROMOSOMAL LOCATION

Genetic locus: NDUFA12 (human) mapping to 12q22; Ndufa12 (mouse) mapping to 10 C2.

SOURCE

NDUFA12 (C-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of NDUFA12 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-248062 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NDUFA12 (C-12) is recommended for detection of NDUFA12 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 NDUFA family members.

Suitable for use as control antibody for NDUFA12 siRNA (h): sc-95899, NDUFA12 siRNA (m): sc-149869, NDUFA12 shRNA Plasmid (h): sc-95899-SH, NDUFA12 shRNA Plasmid (m): sc-149869-SH, NDUFA12 shRNA (h) Lentiviral Particles: sc-95899-V and NDUFA12 shRNA (m) Lentiviral Particles: sc-149869-V.

Molecular Weight of NDUFA12: 17 kDa.

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.

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 or our catalog for detailed protocols and support products.