



ND2 (C-16)-R: sc-20495-R

BACKGROUND

NADH dehydrogenase (complex I) is a complicated multiprotein complex located in the inner mitochondrial membrane. Human complex I is important for energy metabolism because its main function is to transport electrons from NADH to ubiquinone, which is accompanied by translocation of protons from the mitochondrial matrix to the intermembrane space to produce ATP. The largest of respiratory units, human complex I appears to consist of 41 subunits with 45 separate polypeptide chains. A small number of complex I subunits are the products of mitochondrial genes (subunits 1-7), while the remainder are nuclear encoded and imported from the cytoplasm. Various tissues from patients with neurodegenerative disease are frequently deficient in complex I. NADH dehydrogenase 2 (ND2) is a copper-containing NADH dehydrogenase which also retains cupric reductase activity involved in hydroperoxide-induced oxidative stress. ND2 maintains integrated roles in bacterial oxidative protection and also copper homeostasis.

REFERENCES

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4. Conn, K.J., Ullman, M.D., Eisenhauer, P.B., Fine, R.E. and Wells, J.M. 2001. Decreased expression of the NADH:ubiquinone oxidoreductase (complex I) subunit 4 in 1-methyl-4-phenylpyridinium-treated human neuroblastoma SH-SY5Y cells. *Neurosci. Letts.* 306: 145-148.
5. Kim, S.H., Vlkolinsky, R., Cairns, N., Fountoulakis, M. and Lubec, G. 2001. The reduction of NADH ubiquinone oxidoreductase 24- and 75-kDa subunits in brains of patients with Down syndrome and Alzheimer's disease. *Life Sci.* 68: 2741-2750.

CHROMOSOMAL LOCATION

Genetic locus: ND2 (human) mapping to MT.

SOURCE

ND2 (C-16)-R is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of ND2 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-20495 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ND2 (C-16)-R is recommended for detection of ND2 of 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).

Molecular Weight of ND2: 39 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (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.