**BACKGROUND**

NADH:ubiquinone oxidoreductase (complex I) is an extremely 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. Human complex I appears to consist of 41 subunits. 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. NADH dehydrogenase subunit 4 (ND4) is most likely a component of the hydrophobic protein fragment of complex I. Mutations in the gene encoding for ND4 are implicated in Leber hereditary optic neuropathy, a rare condition that can cause loss of central vision.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: ND4 (human) mapping to MT; Nd4 (mouse) mapping to mt.

**SOURCE**

ND4 (A-16)-R is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of ND4 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-20499 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

**STORAGE**

Store at 4° C. **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

**APPLICATIONS**

ND4 (A-16)-R is recommended for detection of NADH-ubiquinone oxidoreductase chain 4 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).

**Molecular Weight of ND4: 51 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.

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

For research use only, not for use in diagnostic procedures.

**PROTOCOLS**

See our website at www.scbt.com or our catalog for detailed protocols and support products.