

## ND6 (V-16)-R: sc-20510-R

### 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. The significance of NADH dehydrogenase subunit 6 (ND6) is rapidly becoming increasingly apparent as many mutations leading to amino acid changes in this subunit are associated with known mitochondrial diseases.

### REFERENCES

1. Ton, C., Hwang, D.M., Dempsey, A.A. and Liew, C.C. 1997. Identification and primary structure of five human NADH-ubiquinone oxidoreductase subunits. *Biochem. Biophys. Res. Commun.* 241: 589-594.
2. Loeffen, J.L., Triepels, R.H., van den Heuvel, L.P., Schuelke, M., Buskens, C.A., Smeets, R.J., Trijbels, J.M. and Smeitink, J.A. 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. Smeitink, J., Loeffen, J., Smeets, R., Triepels, R., Ruitenbeek, W., Trijbels, F. and van den Heuvel, L. 1998. Molecular characterization and mutational analysis of the human B17 subunit of the mitochondrial respiratory chain complex I. *Hum. Genet.* 103: 245-250.
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. Lett.* 306: 145-148.
5. Ingman, M. and Gyllensten, U. 2003. Mitochondrial genome variation and evolutionary history of Australian and New Guinean aborigines. *Genome Res.* 13:1600-1606.
6. Kao, M.C., Di Bernardo, S., Nakamaru-Ogiso, E., Miyoshi, H., Matsuno-Yagi, A., Yagi, T. 2005. Characterization of the membrane domain subunit NuoJ (ND6) of the NADH-quinone oxidoreductase from *Escherichia coli* by chromosomal DNA manipulation. *Biochemistry* 44: 3562-3571.

### CHROMOSOMAL LOCATION

Genetic locus: ND6 (human) mapping to MT; Nd6 (mouse) mapping to MT.

### STORAGE

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

### PROTOCOLS

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

### SOURCE

ND6 (V-16)-R is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of ND6 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-20510-R P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

ND6 (V-16)-R is recommended for detection of ND6 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).

### 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.

### RESEARCH USE

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