SANTA CRUZ BIOTECHNOLOGY, INC.

NDUFAF1 (H-79): sc-292085

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The Power to Question

BACKGROUND

NDUFAF1 (NADH dehydrogenase (ubiquinone) 1 α subcomplex assembly factor 1), also known as CIA30 (complex I intermediate-associated protein 30, mitochondrial) or CGI-65, is a 327 amino acid mitochondrial protein that is ubiquitously expressed and belongs to the CIA30 family. The largest multiprotein enzyme of the oxidative phosphorylation (OXPHOS) system, NDUFAF1 functions as a chaperone protein that is involved in the assembly of the mitochondrial NADH ubiquinone oxidoreductase 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. NDUFAF1 is a crucial component in the early assembly of complex I and mutations in its gene can cause mitochondrial disease.

REFERENCES

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2. Janssen, R., et al. 2002. CIA30 complex I assembly factor: a candidate for human complex I deficiency? Hum. Genet. 110: 264-270.
3. Vogel, R.O., et al. 2005. Human mitochondrial complex I assembly is mediated by NDUFAF1. FEBS J. 272: 5317-5326.
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5. Vogel, R.O., et al. 2007. Human mitochondrial complex I assembly: a dynamic and versatile process. Biochim. Biophys. Acta 1767: 1215-1227.
6. Dunning, C.J., et al. 2007. Human CIA30 is involved in the early assembly of mitochondrial complex I and mutations in its gene cause disease. EMBO J. 26: 3227-3237.
7. Vogel, R.O., et al. 2007. Cytosolic signaling protein Ecsit also localizes to mitochondria where it interacts with chaperone NDUFAF1 and functions in complex I assembly. Genes Dev. 21: 615-624.
8. Kaminski, M., et al. 2007. Novel role for mitochondria: protein kinase Cθ-dependent oxidative signaling organelles in activation-induced T-cell death. Mol. Cell. Biol. 27: 3625-3639.
9. Vogel, R.O., et al. 2007. Investigation of the complex I assembly chaperones B17.2L and NDUFAF1 in a cohort of CI deficient patients. Mol. Genet. Metab. 91: 176-182.

CHROMOSOMAL LOCATION

Genetic locus: NDUFAF1 (human) mapping to 15q15.1; Ndufaf1 (mouse) mapping to 2 E5.

SOURCE

NDUFAF1 (H-79) is a rabbit polyclonal antibody raised against amino acids 180-258 mapping within an internal region of NDUFAF1 of human origin.

RESEARCH USE

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

PRODUCT

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

APPLICATIONS

NDUFAF1 (H-79) is recommended for detection of NDUFAF1 of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

NDUFAF1 (H-79) is also recommended for detection of NDUFAF1 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for NDUFAF1 siRNA (h): sc-90256, NDUFAF1 siRNA (m): sc-106288, NDUFAF1 shRNA Plasmid (h): sc-90256-SH, NDUFAF1 shRNA Plasmid (m): sc-106288-SH, NDUFAF1 shRNA (h) Lentiviral Particles: sc-90256-V and NDUFAF1 shRNA (m) Lentiviral Particles: sc-106288-V.

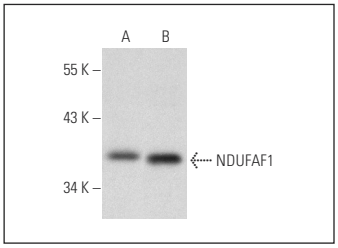
Molecular Weight of NDUFAF1: 38 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224 or human adrenal gland extract: sc-363761.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



NDUFAF1 (H-79): sc-292085. Western blot analysis of NDUFAF1 expression in Caki-1 whole cell lysate (**A**) and human adrenal gland tissue extract (**B**).

STORAGE

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