SANTA CRUZ BIOTECHNOLOGY, INC.

PDSS1 (F-21): sc-133901

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The Power to Question

BACKGROUND

PDSS1, Decaprenyl-diphosphate synthase subunit 1, is a magnesium binding peptide that belongs to the FPP/GGPP synthetase family. Forming a heterotetramer that consists of 2 DPS1/TPRT and 2 DLP1 subunits, Decaprenyl-diphosphate synthase functions to supply decaprenyl diphosphate, which is the precursor for the side chains of the isoprenoid quinones ubiquinone-10. Limited expression or defects of PDSS1 can lead to a coenzyme Q10 deficiency which can be manifested by several phenotypes. Coenzyme Q10 (CoQ10) deficiencies can lead to reduced ATP synthesis and result in marked cerebellar atrophy and pure myopathy. CoQ10 deficiencies has also been associated with reversible renal diseases and infantile multisystemic and cerebellar ataxia.

REFERENCES

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2. Saiki, R., et al. 2005. Characterization of solanesyl and decaprenyl diphosphate synthases in mice and humans. FEBS J. 272: 5606-5622.
3. Takahashi, S., et al. 2006. Metabolic engineering of coenzyme Q by modification of isoprenoid side chain in plant. FEBS Lett. 580: 955-959.
4. Zahiri, H.S., et al. 2006. Coenzyme Q10 production in recombinant *Escherichia coli* strains engineered with a heterologous decaprenyl diphosphate synthase gene and foreign mevalonate pathway. Metab. Eng. 8: 406-416.
5. Mollet, J., et al. 2007. Prenyldiphosphate synthase, subunit 1 (PDSS1) and OH-benzoate polyprenyltransferase (COQ2) mutations in ubiquinone deficiency and oxidative phosphorylation disorders. J. Clin. Invest. 117: 765-772.
6. Seo, M.J., et al. 2007. Increase of CoQ10 production level by the coexpression of decaprenyl Diphosphate synthase and 1-deoxy-D-xylulose 5-phosphate synthase isolated from *Rhizobium* radiobacter ATCC 4718 in recombinant *Escherichia coli*. J. Microbiol. Biotechnol. 17: 1045-1048.
7. Liu, X., et al. 2007. Residues around the catalytic pocket of DdsA are important for isoprenoids chain elongation. Protein Pept. Lett. 14: 27-32.

CHROMOSOMAL LOCATION

Genetic locus: PDSS1 (human) mapping to 10p12.1; Pdss1 (mouse) mapping to 2 A3.

SOURCE

PDSS1 (F-21) is a a Protein A purified rabbit polyclonal antibody raised against synthetic PDSS1 peptide of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

PDSS1 (F-21) is recommended for detection of PDSS1 of mouse 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PDSS1 siRNA (h): sc-62769, PDSS1 siRNA (m): sc-62770, PDSS1 shRNA Plasmid (h): sc-62769-SH, PDSS1 shRNA Plasmid (m): sc-62770-SH, PDSS1 shRNA (h) Lentiviral Particles: sc-62769-V and PDSS1 shRNA (m) Lentiviral Particles: sc-62770-V.

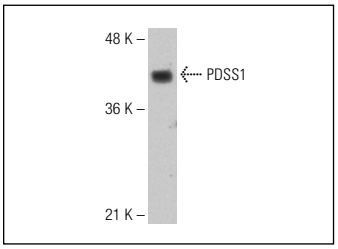
Molecular Weight of PDSS1: 46 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

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).

DATA



PDSS1 (F-21): sc-133901. Western blot analysis of PDSS1 expression in Hep G2 whole cell lysate.

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.