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PDSS1 (C-8): sc-518218

BACKGROUND

PDSS1, decaprenyl-diphosphate synthase subunit 1, is a magnesium binding peptide that belongs to the FPP/GGPP synthetase family. Forming a heterotrimer 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

1. Park, Y.C., et al. 2005. Batch and fed-batch production of coenzyme Q10 in recombinant *Escherichia coli* containing the decaprenyl diphosphate synthase gene from *Gluconobacter suboxydans*. Appl. Microbiol. Biotechnol. 67: 192-196.
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.

CHROMOSOMAL LOCATION

Genetic locus: PDSS1 (human) mapping to 10p12.1.

SOURCE

PDSS1 (C-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 174-196 of PDSS1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PDSS1 (C-8) is available conjugated to agarose (sc-518218 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518218 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518218 PE), fluorescein (sc-518218 FITC), Alexa Fluor® 488 (sc-518218 AF488), Alexa Fluor® 546 (sc-518218 AF546), Alexa Fluor® 594 (sc-518218 AF594) or Alexa Fluor® 647 (sc-518218 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518218 AF680) or Alexa Fluor® 790 (sc-518218 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

PDSS1 (C-8) is recommended for detection of PDSS1 of human origin by Western Blotting (starting dilution 1:100, 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).

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

Molecular Weight of PDSS1: 46 kDa.

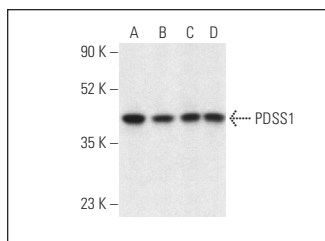
Positive Controls: Hep G2 cell lysate: sc-2227, HeLa whole cell lysate: sc-2200 or K-562 whole cell lysate: sc-2203.

RECOMMENDED SUPPORT REAGENTS

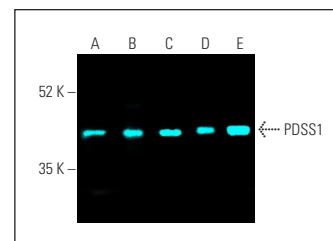
To ensure optimal results, the following support reagents are recommended:

- 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



PDSS1 (C-8): sc-518218. Western blot analysis of PDSS1 expression in Hep G2 (A), HeLa (B), K-562 (C) and Jurkat (D) whole cell lysates. Detection reagent used: m-IgG_{2a} BP-HRP: sc-542731.



PDSS1 (C-8): sc-518218. Fluorescent western blot analysis of PDSS1 expression in HeLa (A), Jurkat (B), Hep G2 (C), K-562 (D) and HEK293T (E) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG_{2a} BP-CFL 647: sc-542738.

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 for detailed protocols and support products.