

PDSS2 (I-18): sc-74819

BACKGROUND

Prenyl diphosphate synthase subunit 2 (PDSS2), also known as decaprenyl-diphosphate synthase subunit 2, decaprenyl pyrophosphate synthetase subunit 2 and candidate tumor suppressor protein, is a 399 amino acid member of the FPP/GGPP synthetase family. PDSS2 exists as a heterotetramer, with two PDSS2 and two PDSS1 subunits, and functions primarily as a candidate tumor suppressor protein. Defects in PDSS2 have been shown to cause coenzyme Q10 deficiency, an autosomal recessive disorder with three predominant phenotypes: a predominantly myopathic form with central nervous system involvement, an infantile encephalomyopathy with renal dysfunction and an ataxic form with cerebellar atrophy. Two isoforms of PDSS2 exist as a result of alternative splicing events.

REFERENCES

1. Saiki, R., et al. 2005. Characterization of solanesyl and decaprenyl diphosphate synthases in mice and humans. *FEBS J.* 272: 5606-5622.
2. López, L.C., et al. 2006. Leigh syndrome with nephropathy and CoQ10 deficiency due to decaprenyl diphosphate synthase subunit 2 (PDSS2) mutations. *Am. J. Hum. Genet.* 79: 1125-1129.
3. Hom, J.R., et al. 2007. Thapsigargin induces biphasic fragmentation of mitochondria through calcium-mediated mitochondrial fission and apoptosis. *J. Cell. Physiol.* 212: 498-508.
4. Quinzii, C.M., et al. 2007. CoQ10 deficiency diseases in adults. *Mitochondrion* 7: S122-S126.
5. Saiki, R., et al. 2008. Coenzyme Q10 supplementation rescues renal disease in *Pdss2*kd/kd mice with mutations in prenyl diphosphate synthase subunit 2. *Am. J. Physiol. Renal Physiol.* 295: F1535-F1544.
6. Quinzii, C.M., et al. 2008. Human CoQ10 deficiencies. *Biofactors* 32: 113-118.
7. Chen, P., et al. 2009. Anticancer activity of PDSS2, prenyl diphosphate synthase, subunit 2, in gastric cancer tissue and the SGC7901 cell line. *Anticancer Drugs* 20: 141-148.

CHROMOSOMAL LOCATION

Genetic locus: PDSS2 (human) mapping to 6q21; *Pdss2* (mouse) mapping to 10 B2.

SOURCE

PDSS2 (I-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PDSS2 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-74819 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-74819 X, 200 µg/0.1 ml.

APPLICATIONS

PDSS2 (I-18) is recommended for detection of PDSS2 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).

PDSS2 (I-18) is also recommended for detection of PDSS2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PDSS2 siRNA (h): sc-76100, PDSS2 siRNA (m): sc-76101, PDSS2 shRNA Plasmid (h): sc-76100-SH, PDSS2 shRNA Plasmid (m): sc-76101-SH, PDSS2 shRNA (h) Lentiviral Particles: sc-76100-V and PDSS2 shRNA (m) Lentiviral Particles: sc-76101-V.

PDSS2 (I-18) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

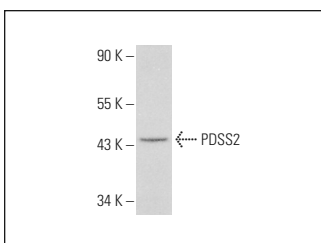
Molecular Weight of PDSS2: 44 kDa.

Positive Controls: mouse cerebellum extract: sc-2403.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PDSS2 (I-18): sc-74819. Western blot analysis of PDSS2 expression in mouse cerebellum tissue extract.

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.