

PISD (H-2): sc-390070



The Power to Question

BACKGROUND

Enzymes known as phosphatidylserine decarboxylases (PSDs) catalyze the formation of phosphatidylethanolamine from phosphatidylserine via phosphatidylserine decarboxylation. Type I PSDs contain LGST motifs and are found in bacteria and eukaryotic mitochondria, whereas type II PSDs contain GGST motifs and are found in eukaryotic endomembrane systems. PISD (phosphatidylserine decarboxylase), also known as phosphatidylserine decarboxylase proenzyme, PSDC, PSD, PSSC, DJ858B16, dJ858B16.2 or DKFZp566G2246, is a 408 amino acid type I phosphatidylserine decarboxylase that localizes to the inner mitochondrial membrane. PISD contains a conserved LGST motif which is cleaved to produce two isoforms known as PISD α and PISD β . PISD is capable of forming a heterodimer and is highly expressed in liver and testis. The gene encoding PISD maps to human chromosome 22q12.2.

CHROMOSOMAL LOCATION

Genetic locus: PISD (human) mapping to 22q12.2; Pisd (mouse) mapping to 5 B1.

SOURCE

PISD (H-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 249-283 within an internal region of PISD of human origin.

PRODUCT

Each vial contains 200 μ g IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-390070 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

PISD (H-2) is recommended for detection of PISD of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PISD (H-2) is also recommended for detection of PISD in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for PISD siRNA (h): sc-76147, PISD siRNA (m): sc-152277, PISD shRNA Plasmid (h): sc-76147-SH, PISD shRNA Plasmid (m): sc-152277-SH, PISD shRNA (h) Lentiviral Particles: sc-76147-V and PISD shRNA (m) Lentiviral Particles: sc-152277-V.

Molecular Weight of PISD isoform 1: 47 kDa.

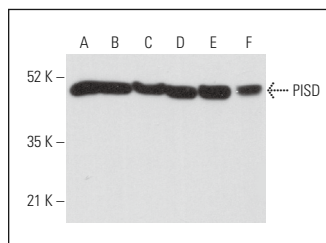
Molecular Weight of PISD isoform 2: 43 kDa.

Positive Controls: JAR cell lysate: sc-2276, A549 cell lysate: sc-2413 or K-562 whole cell lysate: sc-2203.

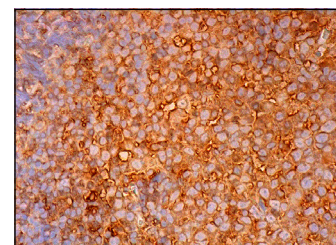
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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 L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohisto-mount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



PISD (H-2): sc-390070. Western blot analysis of PISD expression in JAR (A), K-562 (B), PC-3 (C), A549 (D), RAW 264.7 (E) and WEHI-3 (F) whole cell lysates.



PISD (H-2): sc-390070. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing cytoplasmic and membrane staining of cells in germinal centers and cells in non-germinal centers.

SELECT PRODUCT CITATIONS

1. Fu, G., et al. 2021. Metabolic control of TFH cells and humoral immunity by phosphatidylethanolamine. *Nature* 595: 724-729.
2. Sassano, M.L., et al. 2023. PERK recruits E-Syt1 at ER-mitochondria contacts for mitochondrial lipid transport and respiration. *J. Cell Biol.* 222: e202206008.
3. Xu, H., et al. 2023. Phosphoethanolamine cytidyltransferase ameliorates mitochondrial function and apoptosis in hepatocytes in T2DM *in vitro*. *J. Lipid Res.* 64: 100337.
4. Liu, N., et al. 2023. Phosphatidylserine decarboxylase downregulation in uric acid-induced hepatic mitochondrial dysfunction and apoptosis. *MedComm* 4: e336.

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.