



## PISD (A-12): sc-86195

### 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 $\alpha$  and PISD $\beta$ . PISD is capable of forming a heterodimer and is highly expressed in liver and testis.

### REFERENCES

1. Kuge, O., Nishijima, M. and Akamatsu, Y. 1991. A cloned gene encoding phosphatidylserine decarboxylase complements the phosphatidylserine biosynthetic defect of a Chinese hamster ovary cell mutant. *J. Biol. Chem.* 266: 6370-6376.
2. Kuge, O., Saito, K., Kojima, M., Akamatsu, Y. and Nishijima, M. 1996. Post-translational processing of the phosphatidylserine decarboxylase gene product in Chinese hamster ovary cells. *Biochem. J.* 319 (Pt. 1): 33-38.
3. Steenbergen, R., Nanowski, T.S., Beigneux, A., Kulinski, A., Young, S.G. and Vance, J.E. 2005. Disruption of the phosphatidylserine decarboxylase gene in mice causes embryonic lethality and mitochondrial defects. *J. Biol. Chem.* 280: 40032-40040.
4. Forbes, C.D., Toth, J.G., Ozbal, C.C., Lamarr, W.A., Pendleton, J.A., Rocks, S., Gedrich, R.W., Osterman, D.G., Landro, J.A. and Lumb, K.J. 2007. High-throughput mass spectrometry screening for inhibitors of phosphatidylserine decarboxylase. *J. Biomol. Screen.* 12: 628-634.
5. Schuiki, I. and Daum, G. 2009. Phosphatidylserine decarboxylases, key enzymes of lipid metabolism. *IUBMB Life* 61: 151-162.
6. Online Mendelian Inheritance in Man, OMIM™. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 612770. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

### CHROMOSOMAL LOCATION

Genetic locus: PISD (human) mapping to 22q12.2.

### SOURCE

PISD (A-12) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of PISD of human origin.

### 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.

### PRODUCT

Each vial contains 100  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-86195 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

PISD (A-12) is recommended for detection of PISD of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 PISD siRNA (h): sc-76147, PISD shRNA Plasmid (h): sc-76147-SH and PISD shRNA (h) Lentiviral Particles: sc-76147-V.

Molecular Weight of PISD isoform 1: 47 kDa.

Molecular Weight of PISD isoform 2: 43 kDa.

Positive Controls: JAR cell lysate: sc-2276.

### 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) 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.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.