

## PSS1 (Y-19): sc-51410

### BACKGROUND

Phosphatidylserine synthases (PSS) are widespread, ancestral enzymes with a highly conserved function. PSS is a membrane protein responsible for catalyzing the calcium-dependent base exchange of serine with existing phospholipid head groups in the biosynthesis of phosphatidylserine (PtdSer), a major anionic phospholipid expressed on the inner layer of the plasma membrane. Two forms of PSS exist, PSS1 and PSS2, both localizing to the mitochondria-associated membrane. These two forms are encoded by different genes but share very similar characteristics, differing only in their substrate specificity. The primary substrate for PSS1 is phosphatidylcholine and the substrate for PSS2 is phosphatidylethanolamine. PSS1 and PSS2 are directly inhibited by PtdSer and this inhibition is important for feedback control of PtdSer synthesis. Cells overexpressing PSS1 and PSS2 are significantly resistant to UV-induced apoptosis.

### REFERENCES

1. Stone, S.J., et al. 1999. Cloning and expression of murine liver phosphatidylserine synthase (PSS)2: differential regulation of phospholipid metabolism by PSS1 and PSS2. *Biochem. J.* 342: 57-64.
2. Stone, S.J., et al. 2000. Phosphatidylserine synthase-1 and -2 are localized to mitochondria-associated membranes. *J. Biol. Chem.* 275: 34534-34540.
3. Kuge, O., et al. 2003. Purification and characterization of Chinese hamster phosphatidylserine synthase 2. *J. Biol. Chem.* 278: 42692-42698.
4. Kuge, O., et al. 2003. Biosynthetic regulation and intracellular transport of phosphatidylserine in mammalian cells. *J. Biochem.* 133: 397-403.
5. Mozzi, R., et al. 2003. Metabolism and functions of phosphatidylserine in mammalian brain. *Neurochem. Res.* 28: 195-214.
6. Yu, A., et al. 2004. Resistance to UV-induced apoptosis in Chinese hamster ovary cells overexpressing phosphatidylserine synthases. *Biochem. J.* 381: 609-618.

### CHROMOSOMAL LOCATION

Genetic locus: PTDSS1 (human) mapping to 8q22; Ptdss1 (mouse) mapping to 13 B3.

### SOURCE

PSS1 (Y-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PSS1 of human origin.

### PRODUCT

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

Blocking peptide available for competition studies, sc-51410 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

### APPLICATIONS

PSS1 (Y-19) is recommended for detection of PSS1 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).

PSS1 (Y-19) is also recommended for detection of PSS1 in additional species, including bovine.

Suitable for use as control antibody for PSS1 siRNA (h): sc-72365, PSS1 siRNA (m): sc-72366, PSS1 shRNA Plasmid (h): sc-72365-SH, PSS1 shRNA Plasmid (m): sc-72366-SH, PSS1 shRNA (h) Lentiviral Particles: sc-72365-V and PSS1 shRNA (m) Lentiviral Particles: sc-72366-V.

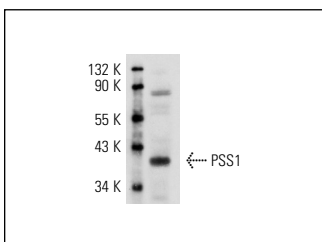
Molecular Weight of PSS1: 42 kDa.

Positive Controls: mouse brain extract: sc-2253.

### 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



PSS1 (Y-19): sc-51410. Western blot analysis of PSS1 expression in mouse brain tissue extract.

### RESEARCH USE

For research use only, not for use in diagnostic procedures.

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Try **PSS1 (B-5): sc-515376**, our highly recommended monoclonal alternative to PSS1 (Y-19).