

PAPSS 1 (H-42): sc-135175

BACKGROUND

Bifunctional 3'-phosphoadenosine 5'-phosphosulfate synthetases (PAPS synthetase or PAPSS), also designated sulfurylase kinase (SK), are important for sulfate assimilation in the sulfur metabolism pathway. PAPSS proteins are bifunctional enzymes with APS kinase and ATP sulfurylase activity, which mediate two steps in the sulfate activation pathway. The PAPSS proteins belong to the APS kinase family and to the sulfate adenylyltransferase family of proteins. In mammals, PAPSS proteins are the sole source of sulfate. PAPSS 1, which is involved in biosynthesis of sulfated L-selectin ligands in endothelial cells, is regulated by chlorate inhibition. It is expressed primarily in pancreas, liver, testis, thymus, kidney, prostate, ovary and small intestine.

REFERENCES

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2. Girard, J.P., Baekkevold, E.S. and Amalric, F. 1998. Sulfation in high endothelial venules: cloning and expression of the human PAPSS. *FASEB J.* 12: 603-612.
3. Venkatachalam, K.V., Fuda, H., Koonin, E.V. and Strott, C.A. 1999. Site-selected mutagenesis of a conserved nucleotide binding HXGH motif located in the ATP sulfurylase domain of human bifunctional PAPSS. *J. Biol. Chem.* 274: 2601-2604.
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5. Venkatachalam, K.V. 2003. Human PAPSS: biochemistry, molecular biology and genetic deficiency. *IUBMB Life* 55: 1-11.
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CHROMOSOMAL LOCATION

Genetic locus: PAPSS1 (human) mapping to 4q25; Papss1 (mouse) mapping to 3 G3.

SOURCE

PAPSS 1 (H-42) is a rabbit polyclonal antibody raised against amino acids 288-329 mapping within an internal region of PAPSS 1 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.

STORAGE

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

APPLICATIONS

PAPSS 1 (H-42) is recommended for detection of PAPSS 1 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).

PAPSS 1 (H-42) is also recommended for detection of PAPSS 1 in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for PAPSS 1 siRNA (h): sc-61291, PAPSS 1 siRNA (m): sc-61292, PAPSS 1 shRNA Plasmid (h): sc-61291-SH, PAPSS 1 shRNA Plasmid (m): sc-61292-SH, PAPSS 1 shRNA (h) Lentiviral Particles: sc-61291-V and PAPSS 1 shRNA (m) Lentiviral Particles: sc-61292-V.

Molecular Weight of PAPSS 1: 70 kDa.

Positive Controls: rat brain extract: sc-2392 or mouse brain extract: sc-2253.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.