

PAPSS 1 (A-2): sc-376244

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.

CHROMOSOMAL LOCATION

Genetic locus: PAPSS1 (human) mapping to 4q25; Paps1 (mouse) mapping to 3 G3.

SOURCE

PAPSS 1 (A-2) is a mouse monoclonal 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_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PAPSS 1 (A-2) is available conjugated to agarose (sc-376244 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376244 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376244 PE), fluorescein (sc-376244 FITC), Alexa Fluor® 488 (sc-376244 AF488), Alexa Fluor® 546 (sc-376244 AF546), Alexa Fluor® 594 (sc-376244 AF594) or Alexa Fluor® 647 (sc-376244 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376244 AF680) or Alexa Fluor® 790 (sc-376244 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PAPSS 1 (A-2) is recommended for detection of PAPSS 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), 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).

PAPSS 1 (A-2) is also recommended for detection of PAPSS 1 in additional species, including equine.

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.

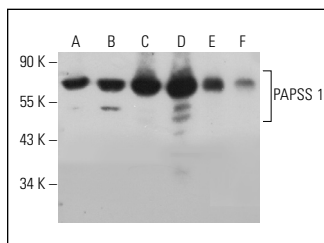
Molecular Weight of PAPSS 1: 70 kDa.

Positive Controls: Ramos cell lysate: sc-2216, Hep G2 nuclear extract: sc-364819 or HeLa nuclear extract: sc-2120.

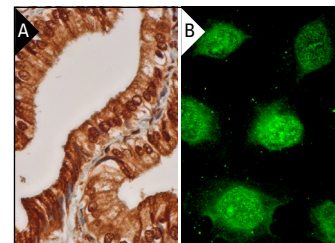
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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 A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ 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-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



PAPSS 1 (A-2): sc-376244. Western blot analysis of PAPSS 1 expression in HeLa (A) and Hep G2 (B) nuclear extracts, Ramos (C) and A2058 (D) whole cell lysates and human pancreas (E) and human testis (F) tissue extracts.



PAPSS 1 (A-2): sc-376244. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing nuclear and cytoplasmic staining of glandular cells (A). Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (B).

SELECT PRODUCT CITATIONS

1. Suzuki, T., et al. 2022. Genome-wide CRISPR screen for HSV-1 host factors reveals PAPSS 1 contributes to heparan sulfate synthesis. *Commun. Biol.* 5: 694.

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.

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