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PAPSS1 Antibody (C-term A607)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2607b

Product Information

Application	WB, E
Primary Accession	O43252
Other Accession	NP_005434
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	70833
Antigen Region	592-624

Additional Information

Gene ID	9061
Other Names	Bifunctional 3'-phosphoadenosine 5'-phosphosulfate synthase 1, PAPS synthase 1, PAPSS 1, Sulfurylase kinase 1, SK 1, SK1, Sulfate adenylyltransferase, ATP-sulfurylase, Sulfate adenylate transferase, SAT, Adenylyl-sulfate kinase, 3'-phosphoadenosine-5'-phosphosulfate synthase, APS kinase, Adenosine-5'-phosphosulfate 3'-phosphotransferase, Adenylylsulfate 3'-phosphotransferase, PAPSS1, ATPSK1, PAPSS
Target/Specificity	This PAPSS1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 592-624 amino acids from the C-terminal region of human PAPSS1.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	PAPSS1 Antibody (C-term A607) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PAPSS1

Synonyms	ATPSK1, PAPSS
Function	Bifunctional enzyme with both ATP sulfurylase and APS kinase activity, which mediates two steps in the sulfate activation pathway. The first step is the transfer of a sulfate group to ATP to yield adenosine 5'-phosphosulfate (APS), and the second step is the transfer of a phosphate group from ATP to APS yielding 3'-phosphoadenylylsulfate (PAPS: activated sulfate donor used by sulfotransferase). In mammals, PAPS is the sole source of sulfate; APS appears to be only an intermediate in the sulfate-activation pathway (PubMed:14747722, PubMed:9576487, PubMed:9648242, PubMed:9668121). Required for normal biosynthesis of sulfated L-selectin ligands in endothelial cells (PubMed:9576487).
Tissue Location	Expressed in testis, pancreas, kidney, thymus, prostate, ovary, small intestine, colon, leukocytes and liver. Also expressed in high endothelial venules (HEV) cells and in cartilage

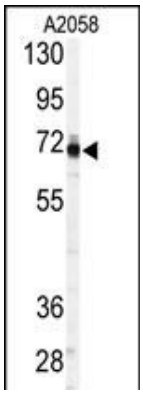
Background

Sulfotransferase (SULT) enzymes catalyze the sulfate conjugation of many drugs, xenobiotic compounds, hormones, and neurotransmitters. 3'-phosphoadenosine 5'-phosphosulfate (PAPS) synthase (PAPSS) catalyzes the biosynthesis of PAPS which serves as the universal sulfonate donor compound for all sulfotransferase reactions. In humans, PAPS is synthesized from adenosine 5-prime triphosphate (ATP) and inorganic sulfate by 2 isoforms, PAPSS1 and PAPSS2 (603005). Bifunctional PAPSS1 is comprised of an N-terminal APS kinase domain, and a C-terminal ATP sulfurylase domain. Full-length protein has significantly less APS kinase activity than the N-terminal fragment, suggesting that the C-terminal domain exerts a regulatory role on the N-terminal APS kinase activity. In humans there are two major isoforms: PAPSS1 and PAPSS2. In brain and skin PAPSS1 is the major isoform, whereas in liver, cartilage and adrenal glands PAPSS2 isoform expression dominates. The predicted 623-amino acid protein is 98% identical to mouse PAPS synthase. The N-terminal 268-amino acid region of human PAPS synthase resembles APS kinases from other organisms and contains 3 conserved nucleotide-binding motifs.

References

Biochemistry 43 (14), 4356-4365 (2004)
IUBMB Life 55 (1), 1-11 (2003)
Biochem. J. 365 (PT 2), 497-504 (2002)
Biochem. Biophys. Res. Commun. 268 (2), 437-444 (2000)
FASEB J. 14 (2), 345-354 (2000)

Images



Western blot analysis of anti-PAPSS1 Antibody (C-term A607) (Cat.#AP2607b) in A2058 cell line lysates (35ug/lane). PAPSS1(arrow) was detected using the purified Pab.

Citations

- Sphingosine kinase as an oncogene: autocrine sphingosine 1-phosphate modulates ML-1 thyroid carcinoma cell migration by a mechanism dependent on protein kinase C-alpha and ERK1/2.