

PSAT1 (Y-13): sc-160689

BACKGROUND

PSAT1 (phosphoserine aminotransferase 1), also known as phosphoserine aminotransferase, phosphohydroxythreonine aminotransferase, endometrial progesterone-induced protein, PSA, PSAT, EPIP or MGC1460, is a 370 amino acid protein belonging to the class-V pyridoxal-phosphate-dependent aminotransferase family and Ser C subfamily. PSAT1 catalyzes the second step in the L-serine synthesis pathway, converting 3-phosphohydroxypyruvate into 3-phosphoserine. While highly expressed in pancreas, brain, kidney and liver, PSAT1 is expressed at very low levels in colon, testis, thymus and prostate. There are two known isoforms of PSAT1 which result from alternative splicing events, and the gene encoding PSAT1 maps to human chromosome 9q21.2. PSAT1 deficiency can cause phosphoserine aminotransferase deficiency (PSATD), whose symptoms include psychomotor retardation, intractable seizures, acquired microcephaly and hypertonia.

REFERENCES

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- Basurko, M.J., et al. 1999. Phospho-serine aminotransferase, the second step-catalyzing enzyme for serine bio-synthesis. *IUBMB Life* 48: 525-529.
- Baek, J.Y., et al. 2003. Characterization of human phosphoserine aminotransferase involved in the phosphorylated pathway of L-serine biosynthesis. *Biochem. J.* 373: 191-200.
- Hart, C.E., et al. 2007. Phosphoserine aminotransferase deficiency: a novel disorder of the serine biosynthesis pathway. *Am. J. Hum. Genet.* 80: 931-937.
- Online Mendelian Inheritance in Man, OMIM[™]. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 610936. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Vié, N., et al. 2008. Overexpression of phosphoserine aminotransferase PSAT1 stimulates cell growth and increases chemoresistance of colon cancer cells. *Mol. Cancer* 7: 14.

CHROMOSOMAL LOCATION

Genetic locus: PSAT1 (human) mapping to 9q21.2; Pstat1 (mouse) mapping to 19 A.

SOURCE

PSAT1 (Y-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PSAT1 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.

Blocking peptide available for competition studies, sc-160689 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PSAT1 (Y-13) is recommended for detection of PSAT1 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).

PSAT1 (Y-13) is also recommended for detection of PSAT1 in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for PSAT1 siRNA (h): sc-92619, PSAT1 siRNA (m): sc-152535, PSAT1 shRNA Plasmid (h): sc-92619-SH, PSAT1 shRNA Plasmid (m): sc-152535-SH, PSAT1 shRNA (h) Lentiviral Particles: sc-92619-V and PSAT1 shRNA (m) Lentiviral Particles: sc-152535-V.

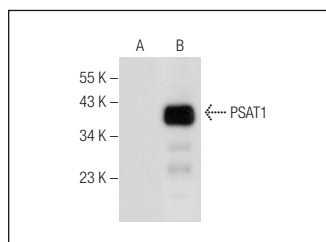
Molecular Weight of PSAT1: 40 kDa.

Positive Controls: PSAT1 (h3): 293 Lysate: sc-113338, PSAT1 (m): 293 Lysate: sc-122812 or Hep G2 cell lysate: sc-2227.

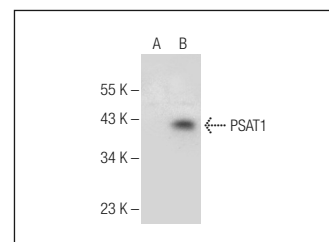
RECOMMENDED SECONDARY REAGENTS

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



PSAT1 (Y-13): sc-160689. Western blot analysis of PSAT1 expression in non-transfected: sc-117752 (A) and mouse PSAT1 transfected: sc-122812 (B) 293T whole cell lysates.



PSAT1 (Y-13): sc-160689. Western blot analysis of PSAT1 expression in non-transfected: sc-110760 (A) and human PSAT1 transfected: sc-113338 (B) 293 whole cell lysates.

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.