10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-PSAT1 Picoband Antibody

Catalog # ABO11704

Product Information

Application	WB, IHC-P
Primary Accession	Q9Y617
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Phosphoserine aminotransferase(PSAT1) detection. Tested with WB, IHC-P in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	29968
Other Names	Phosphoserine aminotransferase, 2.6.1.52, Phosphohydroxythreonine aminotransferase, PSAT, PSAT1, PSA
Calculated MW	40423
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Human, Mouse, Rat, By Heat Western blot, 0.1-0.5 □g/ml, Human, Rat
Tissue Specificity	Expressed at high levels in the brain, liver, kidney and pancreas, and very weakly expressed in the thymus, prostate, testis and colon.
Source	Eukaryota
Protein Name	Phosphoserine aminotransferase
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	E. coli-derived human PSAT1 recombinant protein (Position: Q276-L370). Human PSAT1 shares 90.5% amino acid (aa) sequence identity with mouse PSAT1.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also

be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

Protein Information

Name	PSAT1 {ECO:0000303|PubMed:40281343, ECO:0000312|HGNC:HGNC:19129}
Function	Involved in L-serine biosynthesis via the phosphorylated pathway, a three-step pathway converting the glycolytic intermediate 3-phospho-D-glycerate into L-serine (PubMed:36851825, PubMed:37627284). Catalyzes the second step, that is the pyridoxal 5'-phosphate-dependent transamination of 3-phosphohydroxypyruvate and L-glutamate to O-phosphoserine (OPS) and alpha-ketoglutarate (PubMed:36851825, PubMed:37627284). Acts as an inhibitor of ferroptosis in response to interferon-gamma (IFNG) by promoting GPX4 stability: following phosphorylation by CAMK2A, PSAT1 interacts with GPX4 and provides 2-oxoglutarate to EGLN3, leading to GPX4 hydroxylation and stability (PubMed:40281343).
Tissue Location	Expressed at high levels in the brain, liver, kidney and pancreas, and very weakly expressed in the thymus, prostate, testis and colon.

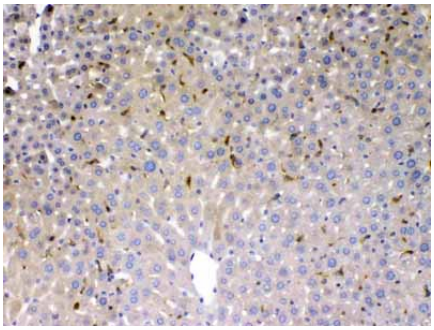
Background

Phosphoserine aminotransferase (PSA), also known as phosphohydroxythreonine aminotransferase (PSAT), is an enzyme that in humans is encoded by the PSAT1 gene. This gene encodes a member of the class-V pyridoxal-phosphate-dependent aminotransferase family. The encoded protein is a phosphoserine aminotransferase and decreased expression may be associated with schizophrenia. Mutations in this gene are also associated with phosphoserine aminotransferase deficiency. Alternative splicing results in multiple transcript variants.

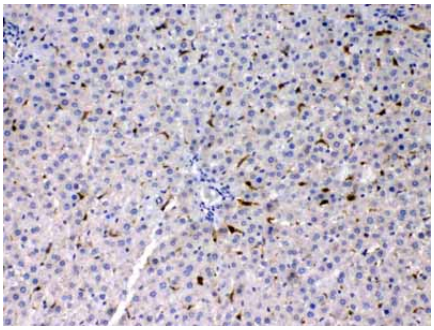
Images



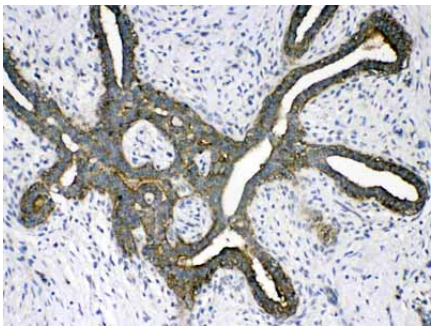
Western blot analysis of PSAT1 expression in rat pancreas extract (lane 1) and HELA whole cell lysates (lane 2). PSAT1 at 40KD was detected using rabbit anti- PSAT1 Antigen Affinity purified polyclonal antibody (Catalog # ABO11704) at 0.5 □¼g/mL. The blot was developed using chemiluminescence (ECL) method .



PSAT1 was detected in paraffin-embedded sections of mouse liver tissues using rabbit anti- PSAT1 Antigen Affinity purified polyclonal antibody (Catalog # ABO11704) at 1 ??g/mL. The immunohistochemical section was developed using SABC method .



PSAT1 was detected in paraffin-embedded sections of rat liver tissues using rabbit anti- PSAT1 Antigen Affinity purified polyclonal antibody (Catalog # ABO11704) at 1 □¼g/mL. The immunohistochemical section was developed using SABC method .



PSAT1 was detected in paraffin-embedded sections of human mammary cancer tissues using rabbit anti- PSAT1 Antigen Affinity purified polyclonal antibody (Catalog # ABO11704) at 1 □¼g/mL. The immunohistochemical section was developed using SABC method .

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.