

Rabbit SHMT2 Polyclonal Antibody | anti-SHMT2 antibody

SHMT2 Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA326123	Rabbit	Human, Mouse, Rat	ELISA, Immunohistochemistry, Western Blot

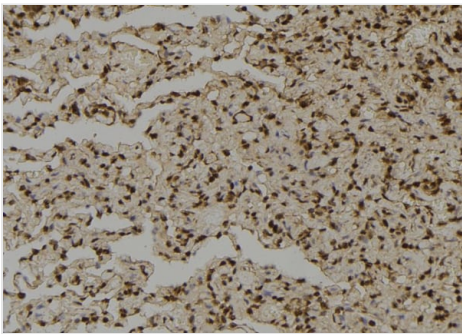
PRODUCT SYNONYMS

SHMT2; Polyclonal Antibody; SHMT2 Antibody; GLY A+; GLYA; glycine auxotroph A; human complement for hamster; Glycine hydroxymethyltransferase; GLYM_HUMAN; mitochondrial; Serine hydroxymethyltransferase 2 (mitochondrial); Serine hydroxymethyltransferase; Serine hydroxymethyltransferase mitochondrial; Serine methylase; SHMT 2; SHMT; anti-SHMT2 antibody

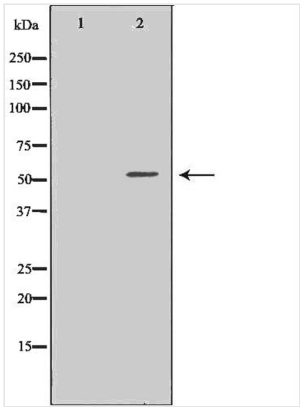
PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	SHMT2 antibody detects endogenous levels of total SHMT2
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	494
Applicable Applications for anti-SHMT2 antibody	ELISA, IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human SHMT2
Subcellular Location	Mitochondrion. Mitochondrion Matrix > Mitochondrion Nucleoid. Mitochondrion Inner Membrane.
Predicted Cross Reactivity	Pig, Zebrafish, Bovine, Horse, Sheep, Rabbit, Dog, Xenopus
Similarity	Pig (100%), Zebrafish (100%), Bovine (92%), Horse (100%), Sheep (92%), Rabbit (92%), Dog (100%), Xenopus (83%)
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



IHC (Immunohistochemistry)
AAA326123 at 1/100 staining Human lung tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.



WB (Western Blot)
Western blot analysis of 293T lysate using SHMT2 antibody. The lane on the left is treated with the antigen-specific peptide.

ADDITIONAL INFORMATION

Related Product Information for anti-SHMT2 antibody

Description: This gene encodes the mitochondrial form of a pyridoxal phosphate-dependent enzyme that catalyzes the reversible reaction of serine and tetrahydrofolate to glycine and 5, 10-methylene tetrahydrofolate. The encoded product is primarily responsible for glycine synthesis. The activity of the encoded protein has been suggested to be the primary source of intracellular glycine. The gene which encodes the cytosolic form of this enzyme is located on chromosome 17. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Oct 2009]

Function: Catalyzes the cleavage of serine to glycine accompanied with the production of 5, 10-methylenetetrahydrofolate, an essential intermediate for purine biosynthesis (PubMed:24075985, PubMed:29364879, PubMed:25619277). Serine provides the major source of folate one-carbon in cells by catalyzing the transfer of one carbon from serine to tetrahydrofolate (PubMed:25619277). Contributes to the de novo mitochondrial thymidylate biosynthesis pathway via its role in glycine and tetrahydrofolate metabolism: thymidylate biosynthesis is required to prevent uracil accumulation in mtDNA (PubMed:21876188). Also required for mitochondrial translation by producing 5, 10-methylenetetrahydrofolate; 5, 10-methylenetetrahydrofolate providing methyl donors to produce the taurinomethyluridine base at the wobble position of some mitochondrial tRNAs (PubMed:29452640, PubMed:29364879). Associates with mitochondrial DNA (PubMed:18063578). In addition to its role in mitochondria, also plays a role in the deubiquitination of target proteins as component of the BRISC complex: required for IFNAR1 deubiquitination by the BRISC complex (PubMed:24075985).

Subunit Structure: Homotetramer; in the presence of bound pyridoxal 5'-phosphate (PubMed:29180469, PubMed:25619277). Homodimer; in the absence of bound pyridoxal 5'-phosphate (PubMed:29180469, PubMed:25619277). Pyridoxal 5'-phosphate binding mediates an important conformation change that is required for tetramerization (PubMed:25619277). Interacts with ABRAXAS2; the interaction is direct. Identified in a complex with ABRAXAS2 and the other subunits of the BRISC complex, at least composed of the ABRAXAS2, BRCC3/BRCC36, BABAM2 and BABAM1/NBA1. Identified in a complex with ABRAXAS2 and IFNAR1 (PubMed:24075985). Interacts with KIRREL3 (PubMed:25902260).

Post-translational Modifications: Succinylation at Lys-280 inhibits the hydroxymethyltransferase activity. Desuccinylation by SIRT5 restores the activity, leading to promote cell proliferation.

Similarity: Belongs to the SHMT family.

NCBI AND UNIPROT INFORMATION

NCBI GI #	261862346
NCBI GeneID	6472
NCBI Accession #	NP_001159828.1
NCBI GenBank Nucleotide #	NM_001166356.1
UniProt Accession #	P34897; O00740; Q8N1A5; B7Z9F1; E7EQ19; E7EU43
Molecular Weight	Observed: 55 kDa Predicted: 56 kDa

NCBI Official Full Name	serine hydroxymethyltransferase, mitochondrial isoform 2
NCBI Official Synonym Full Names	serine hydroxymethyltransferase 2
NCBI Official Symbol	SHMT2
NCBI Official Synonym Symbols	GLYA; SHMT; HEL-S-51e
NCBI Protein Information	serine hydroxymethyltransferase, mitochondrial
UniProt Protein Name	Serine hydroxymethyltransferase, mitochondrial
UniProt Gene Name	SHMT2
UniProt Synonym Gene Names	SHMT

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/shmt2-antibody-immunohistochemistry-western-blot-elisa/326123>