

Recombinant Human Serine Hydroxymethyltransferase 1, His-tagged

Cat. No. SHMT1-1542H Lot. No. (See product label)

SPECIFICATION

Product Overview	Recombinant human SHMT1 protein, fused to His-tag at N-terminus, was expressed in E.coli and purified by using conventional chromatography techniques.
Species	Human
Source	Human
Description	Serine hydroxymethyltransferase 1, also known as SHMT1, belongs to the SHMT family. This protein is cellular form of serine hydroxymethyltransferase, a pyridoxal phosphate-containing enzyme that catalyzes the reversible conversion of serine and tetrahydrofolate to glycine and 5 10-methylene tetrahydrofolate. Also, SHMT1 preferentially supplies one-carbon units for thymidylate biosynthesis, depletes methylenetetrahydrofolate pools for S-adenosylmethionine (SAM) synthesis by synthesizing serine, sequesters 5-methyltetrahydrofolate and inhibits.
Form	Liquid. In 20mM Tris-HCl buffer (pH 8.0) containing 1mM DTT, 10% glycerol, 0.1M NaCl
Molecular Weight	55.2 kDa (503aa)
Purity	> 95% by SDS - PAGE
Concentration	1 mg/ml (determined by Bradford assay)

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Sequences of amino acids	MGSSHHHHHH SSGLVPRGSH MTMPVNGAHK DADLWSSHDK MLAQPLKDSD VEVYNIKKKE SNRQRVGLEL IASENFASRA VLEALGSCLN NKYSEGYPGQ RYYGGTEFID ELETLCQKRA LQAYKLDPQC WGVNVQPYSG SPANFAVYTA LVEPHGRIMG LDLPDGGHLT HGFMTDKKKI SATSIFFESM PYKVNPDGTG INYDQLEENA RLFHPKLIIA GTSCYSRNLE YARLRKIADE NGAYLMADMA HISGLVAAGV VPSPFEHCHV VTTTTHKTLR GCRAGMIFYR KGVKSVDPKT GKEILYNLES LINSVFPGL QGGPHNHAIA GVAVALKQAM TLEFKVYQHQ VVANCRALE ALTELGYKIV TGGSDNHLIL VDLRSKGTG GRAEKVLEAC SIACNKNTCP GDRSALRPSG LRLGTPALTS RGLLEKDFQK VAHFIHRGIE LTLQIQSDTG VRATLKEFKE RLAGDKYQAA VQALREEVES FASFFPLPGL PDF
Storage	Can be stored at +4°C short term (1-2 weeks). For long term storage, aliquot and store at -20°C or -70°C. Avoid repeated freezing and thawing cycles.
Pathways	Carnitine synthesis; Cyanoamino acid metabolism; Glycine, serine and threonine metabolism; Metabolic pathways; Metabolism of amino acids and derivatives; Metabolism of folate and pterines; Metabolism of vitamins and cofactors; Metabolism of water-soluble vitamins and cofactors; One Carbon Metabolism; One carbon pool by folate; Validated targets of C-MYC transcriptional activation
GENE INFORMATION	
Gene Name	SHMT1 serine hydroxymethyltransferase 1 (soluble) [Homo sapiens]
Official Symbol	SHMT1
Synonyms	SHMT1; SHMT; CSHMT; MGC15229; MGC24556; serine hydroxymethyltransferase 1 (soluble); serine hydroxymethyltransferase, cytosolic; 14 kDa protein; serine methylase; OTTHUMP00000065139; OTTHUMP00000065140; OTTHUMP0000006514;1 glycine hydroxymethyltransferase; cytoplasmic serine

hydroxymethyltransferase	
Gene ID	6470
mRNA Refseq	NM_004169
Protein Refseq	NP_004160
MIM	182144
UniProt ID	P34896
Chromosome Location	17p11.2
Function	L-allo-threonine aldolase activity; amino acid binding; glycine hydroxymethyltransferase activity; protein homodimerization activity; pyridoxal phosphate binding; transferase activity

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