

Recombinant human SHMT1 protein

Catalog Number: ATGP1310

PRODUCT INFORMATION

Expression system

E.coli

Domain

1-483aa

UniProt No.

P34896

NCBI Accession No.

AAH07979

Alternative Names

Serine hydroxymethyltransferase 1, CSHMT, SHMT

PRODUCT SPECIFICATION

Molecular Weight

55.2 kDa (503aa)

Concentration

1mg/ml (determined by Bradford assay)

Formulation

Liquid in. 20mM Tris-HCl buffer (pH 8.0) containing 1mM DTT, 10% glycerol, 0.1M NaCl

Purity

> 95% by SDS-PAGE

Tag

His-Tag

Application

SDS-PAGE

Storage Condition

Can be stored at +2C to +8C for 1 week. For long term storage, aliquot and store at -20C to -80C. Avoid repeated freezing and thawing cycles.

BACKGROUND

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. Recombinant human SHMT1 protein, fused to His-tag at N-terminus, was expressed in E. coli and

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purified by using conventional chromatography techniques.

Amino acid Sequence

MGSSHHHHHHH SGLVPRGSH MTMPVNGAHK DADLWSSHDK MLAQPLKDSV VEVYNIKKE SNRQRVGLLE IASENFASRA
VLEALGSLCN NKYSEGYPGQ RYYGGTEFID ELETLCQKRA LQAYKLDPQC WGVNVQPYSG SPANFAVYTA LVEPHGRIMG
LDLPDGGHLT HGFMTDKKKI SATSIFFESM PYKVNPDYGY INYDQLEENA RLFHPKLIIA GTSCYSRNLE YARLRKIAD
NGAYLMADMA HISGLVAAGV VPSPFEHCHV VTTTTHKTLR GCRAGMIFYR KGVKSVDPKT GKEILYNLES LINSVFPGL
QGGPHNHAIA GVAVALKQAM TLEFKVYQHQ VVANCRALE ALTELGYKIV TGGSDNHLIL VDLRSKGTG DGRAEKVLEAC
SIACNKNTCP GDRSALRPSG LRLGTPALTS RGLLEKDFQK VAHFIHRGIE LTLQIQSDTG VRATLKEFKE RLAGDKYQAA
VQALREEVES FASFFPLPGL PDF

General References

Herbig K., et al. (2002) J Biol Chem. 277:38381-38389.
Trivedi V., et al. (2002) J Biol Chem. 277:17161-17169.

DATA

SDS-PAGE

3ug by SDS-PAGE under reducing condition and visualized by coomassie blue stain.

