Recombinant human Thymidylate synthase/TYMS protein

Catalog Number: ATGP0446

PRODUCT INFORMATION

Expression system
E.coli

Domain
1-313aa

UniProt No.
P04818

NCBI Accession No.
NP_001062

Alternative Names
HST422, TMS, TS, d TMP synthase, EC 2.1.1.45, MGC88736, Thymidylate synthase, Thymidylate synthetase, Tsase, TYMS, TYMS protein, Tyms thymidylate synthetase,

PRODUCT SPECIFICATION

Molecular Weight
37.8 kDa (333aa) confirmed by MALDI-TOF

Concentration
1mg/ml (determined by Bradford assay)

Formulation
Liquid in. 20mM Tris-HCl buffer (pH 8.0) containing 10% glycerol, 1mM DTT, 0.1 M 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
Thymidylate synthase is an intracellular enzyme critical for de novo synthesis of DNA. This function maintains the dTMP (thymidine-5-prime monophosphate) pool critical for DNA replication and repair. In cancer, expression of this protein is often elevated and becomes further elevated as a result of treatment with the most commonly used chemotherapeutic, 5-fluorouracil (5-Fu). Resistance or lack of response to 5-Fu is attributed to the elevation of thymidylate synthase activity. Recombinant human Thymidylate synthase protein, fused to His-tag at N-

terminus, was expressed in E. coli and purified by using conventional chromatography techniques.

Amino acid Sequence

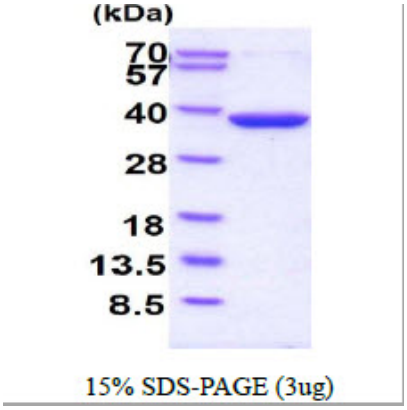
<MGSSHHHHHH SSGLVPRGSH> MPVAGSELPR RPLPPAAQER DAEPRPPHGE LQYLGQIQHI LRCGVRKDDR TGTGTLSVFG MQARYSLRDE FPLLTTKRVF WKGVLEELLW FIKGSTNAKE LSSKGVKIWD ANGSRDFLDS LGFSTREEGD LGPVYGFQWR HFGAEYRDME SDYSGQGVDQ LQRVIDTIKT NPDDRRIIMC AWNPRDLPLM ALPPCHALCQ FYVVNSELSC QLYQRSGDMG LGVPFNIASY ALLTYMIAHI TGLKPGDFIH TLGDAHIYLN HIEPLKIQLQ REPRPFPKLR ILRKVEKIDD FKAEDFQIEG YNPHPTIKME MAV

General References

Chiu TH., et al. (2009) Anticancer Res. 29(11):4503-11.
Pena MM., et al. (2009) J Biol Chem. 284(46):31597-607.

DATA

SDS-PAGE



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