

Recombinant Human TYMS, His-tagged

Cat. No. TYMS-30404TH **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human Thymidylate synthase protein, fused to His-tag at N-terminus, was expressed in E.coli and purified by using conventional chromatography techniques.
Species	Human
Source	E.coli
ProteinLength	1-313aa
Description	Thymidylate synthase catalyzes the methylation of deoxyuridylate to deoxythymidylate using 5,10-methylenetetrahydrofolate (methylene-THF) as a cofactor. This function maintains the dTMP (thymidine-5-prime monophosphate) pool critical for DNA replication and repair. The enzyme has been of interest as a target for cancer chemotherapeutic agents. It is considered to be the primary site of action for 5-fluorouracil, 5-fluoro-2-prime-deoxyuridine, and some folate analogs. Expression of this gene and that of a naturally occurring antisense transcript rTSalpha (GeneID:55556) vary inversely when cell-growth progresses from late-log to plateau phase.
Form	Liquid. In 20mM Tris-HCl buffer (pH 8.0) containing 10% glycerol, 1mM DTT.
Molecular Mass	37.8 kDa (333aa), confirmed by MALDI-TOF.
AA Sequence	MGSSHHHHHH SSGLVPRGSH MPVAGSELPR RLPAAQER DAEPRPPHGE

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LQYLGQIQHI LRCGVRKDDR TGTGTLVFG MQARYSLRDEFPLLTTRVF
 WKGVLEELLW FIKGSTNAKE LSSKGVKIWD ANGSRDFLDS LGFSTREEGD
 LGPVYGFQWR HFGAEYRDME SDYSGQGVDQLQRVIDTIKT NPDDRRIIMC
 AWNPRDLPLM ALPPCHALCQ FYVVNSELSC QLYQRSGDMG LGVPFNIAZY
 ALLTYMIAHI TGLKPGDFIHTLGDHAIYLN HIEPLKIQQLQ REPRPFPKLR
 ILRKVEKIDD FKAEDFQIEG YNPHTIKME MAV

Purity > 95% by SDS - PAGE

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.

Concentration 1 mg/ml (determined by Bradford assay)

GENE INFORMATION

Gene Name TYMS thymidylate synthetase [Homo sapiens (human)]

Official Symbol TYMS

Synonyms TYMS; TS; HsT422; MGC88736; TMS; TSase; thymidylate synthetase; HST422; MGC88736; EC 2.1.1.45; Tsase.

Gene ID 7298

mRNA Refseq NM_001071

Protein Refseq NP_001062

MIM 188350

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UniProt ID	P04818
Chromosome Location	18p11.32
Pathway	Metabolic pathways; One carbon pool by folate; Pyrimidine metabolism; Cell Cycle, Mitotic; Metabolism of nucleotides.
Function	cofactor binding; methyltransferase activity; nucleotide binding; thymidylate synthase activity; transferase activity.

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