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# **TYMS Human**

Description: Thymidylate synthase Human Recombinant produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 333 amino acids (1-313 a.a.) and having a molecular mass of 37.8 kDa. The Thymidylate synthase fused to a 20 amino acid His-Tag at N-Terminus and purifiedby proprietary chromatographic techniques.

Synonyms:TMS, EC 2.1.1.45, HST422, Thymidylate synthase, TSase, TS, TYMS, MGC88736.

Source: Escherichia Coli.

Physical Appearance: Sterile Filtered colorless solution.

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 QL

Purity: Greater than 95.0% as determined by SDS-PAGE.

### Formulation:

The Thymidylate synthase solution (1mg/ml) contains 20mM Tris-HCl buffer (pH 8.0), 1mM DTT and 10% glycerol.

#### Stability:

Thymidylate synthase although stable 4C for 4 weeks, should be stored desiccated below -18C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

#### Usage:

NeoBiolab's products are furnished for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.

## Introduction:

Thymidylate synthase catalyzes the methylation of deoxyuridylate to deoxythymidylate using 5,10-methylenetetrahydrofolate as a cofactor which maintains the dTMP (thymidine-5-prime monophosphate) pool vital for DNA replication and repair. Thymidylate synthase plays an important role as a cancer chemotherapeutic agent. Thymidylate synthase is the primary site of action for 5-fluorouracil, 5-fluoro-2-prime-deoxyuridine, and several folate analogs.

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