

Recombinant Rat TYSY Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52366

Size: 10ug, 100ug

Protein Name: Thymidylate synthase (TS) (TSase) (EC 2.1.1.45)

Synonym: Tyms

UniProt ID: P45352

UniProt Link: www.uniprot.org/uniprotkb/P45352/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 307 AA

Molecular Weight: 35 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MLVEGSELQSGAQQPRTEAPQHGE LQYLRQVEHIMRCGFKKEDRTGTGTL SVFGMQARYSLRDEF
PLLTTKRVFWKGVLEELLWFIKGSTNAKELSSKGVRIWDANGSRDFLDSLGF SARQEGDLGPVYGF
QWRHFGADYKDMDSYSGQGVDQLQKV IDTIKTNPDDRRIIMCAWNPKDLPLMALPPCHALCQFYV
VNGELSCQLYQRSGDMGLGV PFNIA SYALLTYMIAHITGLQPGDFVHTLGD AHIYLNHIEPLKIQLQRE
PRPFPKLRILRKVETIDDFKVEDFQIEGYNPHPTIKMEMAV

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Thymidylate synthase (TS) (TSase) (EC 2.1.1.45) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Catalyzes the reductive methylation of 2'-deoxyuridine 5'-monophosphate (dUMP) to thymidine 5'-monophosphate (dTMP), using the cosubstrate, 5,10- methylenetetrahydrofolate (CH₂H₄folate) as a 1-carbon donor and reductant (Probable). Contributes to the mitochondrial and nuclear de novo thymidylate biosynthesis pathway (By similarity).

Subcellular Localization: Nucleus . Cytoplasm . Mitochondrion . Mitochondrion matrix . Mitochondrion inner membrane . Note=Localized to the nucleus during S and G2/M phases of the cell cycle. As a component of the de novo thymidylate synthesis complex, localizes specifically to replication forks during DNA synthesis (By similarity).

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.