

Human Thymidylate synthase protein, His tag

Cat. No. GTX00420-pro

Applications	Functional Assay	Package
Species	Human	10 µg

Applications

Application Note

Thymidylate synthetase (TYMS) is an enzyme that catalyzes the conversion of deoxyuridine monophosphate (dUMP) to deoxythymidine monophosphate (dTTP). The enzyme is essential for regulating the balanced supply of the 4 DNA precursors in normal DNA replication: defects in the enzyme activity affecting the regulation process cause various biological and genetic abnormalities. Thymidylate synthase is an enzyme of about 30 to 35kDa in most species except in protozoan and plants where it exists as a bifunctional enzyme that includes a dihydrofolate reductase domain. Besides, Aspartate Aminotransferase (AST) has been identified as an interactor of TYMS, thus a binding ELISA assay was conducted to detect the interaction of recombinant human TYMS and recombinant human AST. Briefly, TYMS were diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 µl were then transferred to AST-coated microtiter wells and incubated for 2h at 37°C. Wells were washed with PBST and incubated for 1h with anti-TYMS pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody, wells were aspirated and washed 3 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37°C. Finally, add 50 µl stop solution to the wells and read at 450nm immediately. The binding activity of TYMS and AST was in a dose dependent manner.

Observed MW (kDa) 36 kDa.

Properties

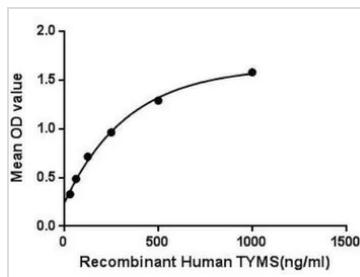
Form	Lyophilized powder
Buffer	Reconstitute with 20mM Tris (pH8.0) and 150mM NaCl to 0.1-1.0mg/ml. Do not vortex. Lyophilized from 20mM Tris (pH8.0), 150mM NaCl, 1mM EDTA, 1mM DTT, 0.01% SKL, 5% Trehalose.
Preservative	ProClin 300
Storage	For short-term storage (1-2 weeks), store at 4°C. For long-term storage, store at -20°C or below. After reconstitution, keep as concentrated solution. Avoid freeze-thaw cycles.
Region/Sequence	N-terminal His-Tag; Gln36~Val313 (NP_001062.1)
Expression System	E. coli
Purity	> 90%
Endotoxin	< 1 EU/µg
Conjugation	Unconjugated
Note	For laboratory use only. Not for any clinical, therapeutic, or diagnostic use in humans or animals. Not for animal or human consumption.



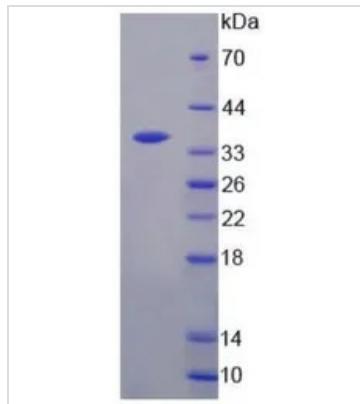
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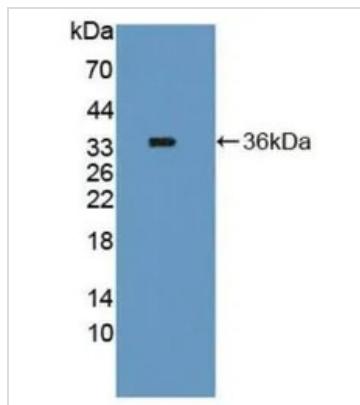
DATA IMAGES

**GTx00420-pro Functional Assay Image**

Functional ELISA analysis of GTx00420-pro Human Thymidylate synthase protein which can bind immobilized AST protein.

**GTx00420-pro Image**

SDS-PAGE analysis of GTx00420-pro Human Thymidylate synthase protein.

**GTx00420-pro Image**

WB analysis of GTx00420-pro Human Thymidylate synthase protein.



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