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# TYSY Antibody(C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AX10003

## Product Information

| | |
|---|---|
| **Application** | WB, IHC-P, IF, FC, E |
| **Primary Accession** | P04818 |
| **Reactivity** | Human |
| **Predicted** | Mouse, Rat, Bovine, Canine, Rabbit, Chicken |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Isotype** | Rabbit IgG |
| **Clone Names** | RB20041 |
| **Calculated MW** | 35716 |
| **Antigen Region** | 265-294 |

## Additional Information

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|---|---|
| **Gene ID** | 7298 |
| **Other Names** | Thymidylate synthase, TS, TSase, TYMS, TS |
| **Target/Specificity** | This TYSY antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 265-294 amino acids from the C-terminal region of human TYSY. |
| **Dilution** | WB~~1:2000 IHC-P~~1:500 IF~~1:50 FC~~1:50 E~~Use at an assay dependent concentration. |
| **Format** | Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. This antibody is purified through a protein A column, followed by peptide affinity purification. |
| **Storage** | Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles. |
| **Precautions** | TYSY Antibody(C-term) is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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|---|---|
| **Name** | TYMS ( HGNC:12441) |
| **Synonyms** | TS |
| **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 and contributes to the mitochondrial and nuclear de novo thymidylate biosynthesis pathway.

**Cellular Location**

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 (PubMed:22235121)

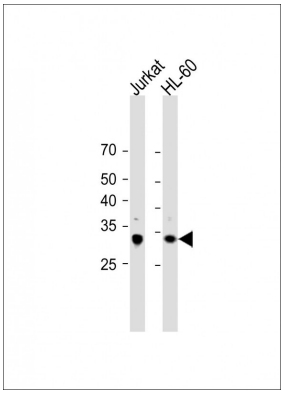
## Background

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.

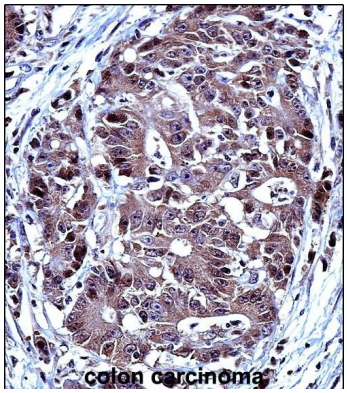
## References

Ren,D.N., J Surg Oncol (2009) Schiffer,C.A., Biochemistry 34 (50), 16279-16287 (1995)

## Images

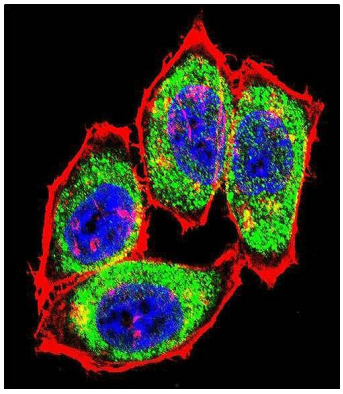


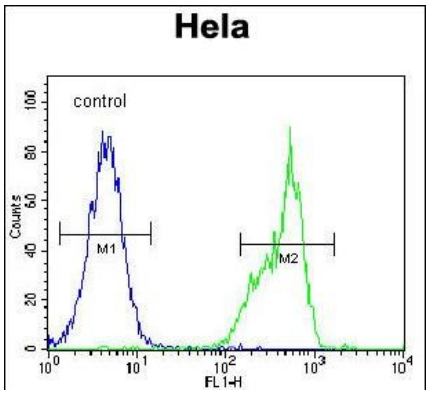

All lanes: Anti-TYSY Antibody(C-term) at 1:500 dilution Lane 1: Jurkat whole cell lysate Lane 2: HL-60 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary: Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/15000 dilution. Observed band size: 32 KDa Blocking/Dilution buffer: 5% NFDM/TBST.




TYSY Antibody (C-term) immunohistochemistry analysis in formalin fixed and paraffin embedded human colon carcinoma followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of TYSY Antibody (C-term) for immunohistochemistry. Clinical relevance has not been evaluated.

Confocal immunofluorescent analysis of TYSY Antibody (C-term) with Hela cell followed by Alexa Fluor 488-conjugated goat anti-rabbit lgG (green). Actin filaments have been labeled with Alexa Fluor 555 phalloidin (red). DAPI was used to stain the cell nuclear (blue).






TYSY Antibody (C-term) flow cytometric analysis of Hela cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.