

## Anti-Thymidylate Synthase TYMS Antibody

Catalog Number: A04320

### About TYMS

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 vary inversely when cell-growth progresses from late-log to plateau phase. Diseases associated with Thymidylate synthase include Rectal Neoplasm and Dihydropyrimidine Dehydrogenase Deficiency. Anti-Thymidylate synthase is useful for researchers interested in Circadian Rhythm, Metabolism and cell cycle research.

### Overview

Product Name	Anti-Thymidylate Synthase TYMS Antibody
Reactive Species	Human
Description	Boster Bio Anti-Thymidylate Synthase TYMS Antibody (Catalog # A04320). Tested in IHC, WB applications. This antibody reacts with Human.
Application	ELISA, IHC, WB
Clonality	Polyclonal
Formulation	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2, 0.01% (w/v) Sodium Azide
Storage Instructions	Store vial at 4°C prior to restoration. For extended storage aliquot contents and freeze at -20°C or below. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4°C as an undiluted liquid. Dilute only prior to immediate use. Expiration date is one (1) year from date of opening. (Ship at ambient temperature.)
Host	Sheep
Uniprot ID	P04818

### Technical Details

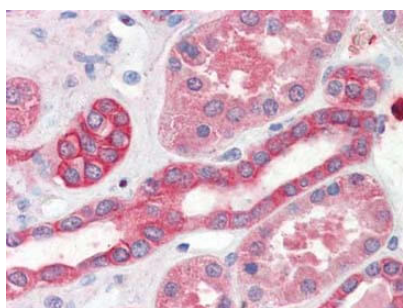
Immunogen	This whole sheep serum was prepared by repeated immunizations with recombinant human Thymidylate Synthase (36 kDa) produced in E.coli.
Predicted Reactive Species	Bovine
Isotype	Antiserum
Form	Lyophilized

Concentration	85 mg/mL by Refractometry
Purification	This antiserum is directed against human Thymidylate Synthase and is useful in determining its presence in various assays. Because inhibition of Thymidylate Synthase prevents DNA synthesis and cell proliferation, the enzyme is an important target for cancer chemotherapeutic drugs, specifically the fluoropyrimidine group of antineoplastic drugs used to treat solid tumors. In general, this antibody can detect antigen in a variety of human cells and tissues, as well as bacteria, African green monkey, rat and mouse. Somewhat lower dilutions may be required in some non-human cell lines. Anti-Thymidylate Synthase can detect Thymidylate Synthase by immunochemistry in proliferating cell cultures and tissues but does not stain nonproliferating cells. Normal colon mucosa shows weak staining; however, some colorectal cancer specimens show very strong staining.
Suggested Dilutions	ELISA: 1:10,000 - 1:50,000 IHC: 1:100 WB: 1:500- 1:2,000 This antiserum against Human Thymidylate Synthase (hTS) has been tested in Western Blot and IHC. This antibody is suitable for use in ELISA, immunoprecipitation, and immunofluorescence microscopy. The antibody recognizes the expected additional band corresponding to the ternary complex of hTS-dFUMP-reduced folate in HeLa cells treated with the TS inhibitor 5-FuDR. This event occurs in most human breast, colorectal, gastric, head and neck carcinomas. The antibody recognizes the 36,000 MW hTS. Reactivity in other immunoassays is unknown.

## Anti-Thymidylate Synthase TYMS Antibody (A04320) Images



Anti-Thymidylate Synthase is shown to detect thymidylate synthase present in a HeLa cell lysate. Each lane is estimated to contain 4 $\mu$ g of protein. Lanes 1, 2 and 3 represent 1:2,000, 1:5,000 and 1:10,000 fold dilutions of the antibody. Detection was made using HRP Rabbit-a-Sheep IgG diluted 1:1,000 and color development using TMB (TMBM-100) substrate for approximately 4'.



Immunohistochemistry of Thymidylate Synthase antibody. Tissue: human Kidney. Fixation: formalin fixed paraffin embedded. Antigen retrieval: user optimized. Primary antibody: 100-601-199 Thymidylate antibody at 1:100. Secondary antibody: Peroxidase goat anti-sheep at 1:10,000 for 45 min at RT. Image provided courtesy of Andrew Elston, LifeSpan BioSciences, Inc.

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