

Anti-Thymidylate Synthase TYMS Antibody

Catalog Number: A04320-1

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 rTS alpha 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

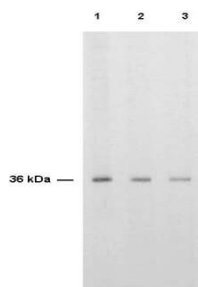
Product Name	Anti-Thymidylate Synthase TYMS Antibody
Reactive Species	Human
Description	Boster Bio Anti-Thymidylate Synthase TYMS Antibody (Catalog # A04320-1). Tested in WB applications. This antibody reacts with Human.
Application	ELISA, IHC, WB
Clonality	Polyclonal
Formulation	0.01% (w/v) Sodium Azide
Storage Instructions	Store vial at -20°C prior to opening. Aliquot contents and freeze at -20°C or below for extended storage. 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 on dry ice.)
Host	Rabbit
Uniprot ID	P04818

Technical Details

Immunogen	This whole rabbit serum was prepared by repeated immunizations with recombinant human Thymidylate Synthase (36 kDa) produced in E.coli.
Predicted Reactive Species	Bovine, Canine, Equine, Guinea Pig, Pig, Rabbit, Zebrafish
Isotype	Antiserum
Form	Liquid (sterile filtered)

Concentration	85 mg/mL by Refractometry
Purification	<p>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.</p>
Suggested Dilutions	<p>ELISA: 1:20,000 - 1:100,000 IHC: User optimized WB: 1:500 - 1:2,000</p> <p>Anti-Thymidylate Synthase has been tested by western blot and is suitable for use in ELISA, immunoprecipitation, immunofluorescence microscopy, immunohistochemistry and immunoblotting. 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.</p>

Anti-Thymidylate Synthase TYMS Antibody (A04320-1) Images



Anti-TS is shown to detect thymidylate synthase present in a HeLa cell extract. Each lane is estimated to contain 4 ug of protein. Lanes 1, 2 and 3 represent 1:500, 1:1,000 and 1:2,000 fold dilutions of the antibody. Detection was made using HRP Goat-a-Rabbit IgG (611-1302) diluted 1:1,000 and color development using TMB (TMBM-100) substrate for approximately 4'.

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Anti-Thymidylate Synthase TYMS Antibody

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