

Datasheet for 100-601-199**Thymidylate Synthase Antibody****Overview**

Description:	Anti-Thymidylate Synthase (SHEEP) Antibody - 100-601-199
Item No.:	100-601-199
Size:	2 mL
Applications:	IHC, WB
Reactivity:	Human
Host Species:	Sheep

Product Details

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. 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.
Synonyms:	sheep anti-Thymidylate Synthase Antibody, HsT422 antibody, MGC88736 antibody, TMS antibody, TS antibody, TSase antibody, TYMS antibody, TYMS protein antibody
Host Species:	Sheep
Clonality:	Polyclonal
Format:	Antiserum

Target Details

Gene Name:	TYMS
Reactivity:	Human
Immunogen Type:	Recombinant Protein

Immunogen:	This whole sheep serum was prepared by repeated immunizations with recombinant human Thymidylate Synthase (36 kDa) produced in E.coli.
Purity/Specificity:	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.
Relevant Links:	• UniProtKB - P04818 • NCBI - P04818.3 • GeneID - 7298

Application Details

Tested Applications:	IHC, WB
Application Note:	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.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:10,000 - 1:50,000
IHC:	1:100
WB:	1:500- 1:2,000

Formulation

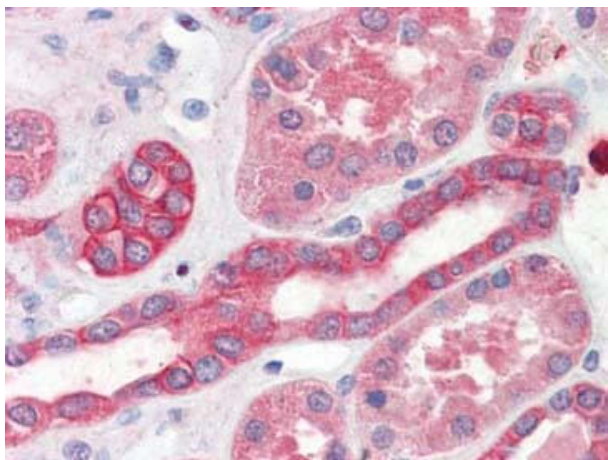
Physical State:	Lyophilized
Concentration:	85 mg/mL by Refractometry
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide

Stabilizer:	None
Reconstitution Volume:	2.0 mL
Reconstitution Buffer:	Restore with deionized water (or equivalent)

Shipping & Handling

Shipping Condition:	Ambient
Storage Condition:	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:	Expiration date is one (1) year from date of receipt.

Images



Immunohistochemistry

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.

**Western Blot**

Anti-Thymidylate Synthase is shown to detect thymidylate synthase present in a HeLa cell lysate (p/n W09-000-364). Each lane is estimated to contain 4µg 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 (p/n 613-4302) diluted 1:1,000 and color development using TMB (TMBM-100) substrate for approximately 4'.

Disclaimer

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.