

**Thymidylate Synthase (5-FU Resistance Marker) Antibody - With BSA and Azide**  
**Mouse Monoclonal Antibody [Clone SPM453 ]**  
**Catalog # AH10787**

**Specification**

**Thymidylate Synthase (5-FU Resistance Marker) Antibody - With BSA and Azide - Product Information**

Application	IHC-P, IF, FC
Primary Accession	<a href="#">P04818</a>
Other Accession	<a href="#">7298</a> , <a href="#">369762</a>
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG1, kappa
Calculated MW	36kDa KDa

**Thymidylate Synthase (5-FU Resistance Marker) Antibody - With BSA and Azide - Additional Information**

**Gene ID** 7298

**Other Names**

Thymidylate synthase, TS, TSase, 2.1.1.45, TYMS, TS

**Application Note**

IHC-P~~N/A  
IF~~1:50~200  
FC~~1:10~50

**Format**

200ug/ml of Ab purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available WITHOUT BSA at 1.0mg/ml.

**Storage**

Store at 2 to 8°C. Antibody is stable for 24 months.

**Precautions**

Thymidylate Synthase (5-FU Resistance Marker) Antibody - With BSA and Azide is for research use only and not for use in diagnostic or therapeutic procedures.

**Thymidylate Synthase (5-FU Resistance Marker) Antibody - With BSA and Azide - Protein Information**

**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 (CH<sub>2</sub>H<sub>4</sub>folate) as a 1- carbon donor and reductant and contributes to the de novo mitochondrial thymidylate biosynthesis pathway.

#### **Cellular Location**

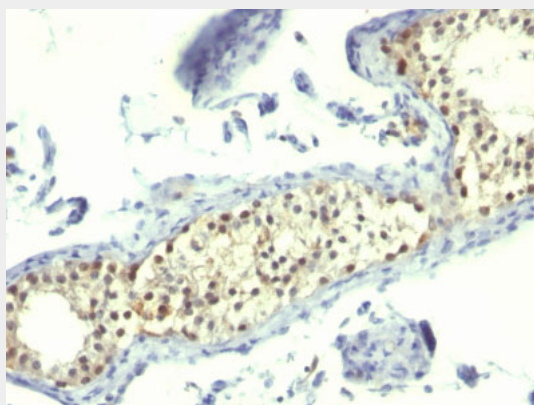
Nucleus. Cytoplasm. Mitochondrion. Mitochondrion matrix. Mitochondrion inner membrane

#### **Thymidylate Synthase (5-FU Resistance Marker) Antibody - With BSA and Azide - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### **Thymidylate Synthase (5-FU Resistance Marker) Antibody - With BSA and Azide - Images**



Formalin-fixed, paraffin-embedded human Testicular Carcinoma stained with Thymidylate Synthase Monoclonal Antibody (SPM453).

#### **Thymidylate Synthase (5-FU Resistance Marker) Antibody - With BSA and Azide - Background**

It recognizes a protein of 36kDa, identified as Thymidylate Synthase (TS) (EC 2.1.1.45). TS converts deoxyuridine monophosphate (dUMP) to deoxythymidine monophosphate (dTMP), which is essential for DNA biosynthesis. TS is also a critical target for the fluoropyrimidines, an important group of antineoplastic drugs that are widely used in the treatment of solid tumors. Both 5-FU and fluorodeoxyuridine are converted in tumor cells to FdUMP which inactivates TS by formation of a ternary covalent complex in the presence of the folate cofactor 5,10-methylenetetrahydrofolate. Expression of TS protein is associated with response to 5-fluorouracil (5-FU) in human colorectal, gastric, head and neck, and breast carcinomas.

#### **Thymidylate Synthase (5-FU Resistance Marker) Antibody - With BSA and Azide - References**

Johnston PG, et. al. Cancer Research, 1991, 51(24):6668-76. | Johnston PG, et. al. Cancer Research, 1992, 52(16):4306-12