## **Thymidylate Synthase Monoclonal Mouse** Antibody (TS106 + TMS715)



## **Product Description**

This antibody recognizes a protein of 36 kDa, 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. Primary antibodies are available purified, or with a selection of fluorescent CF® dyes and other labels. CF® dyes offer exceptional brightness and photostability. See a selection of fluorescent CF® dyes and other labels. CF® dyes offer exceptional brightness and photostability. See the CF® Dye Brochure for more information. Note: Conjugates of blue fluorescent dyes like CF®405S and CF®405M are not recommended for detecting low abundance targets, because blue dyes have lower fluorescence and can give higher non-specific background than other dye colors. **Stock status**: Because Biotium offers a large number of antibody and conjugation options, primary antibody conjugates may be made to order. Typical lead times are up to one week for CF® dye and biotin conjugates, and up to 2-3 weeks for fluorescent protein and enzyme conjugates. Please email <a href="mailto:order@biotium.com">order@biotium.com</a> to inquire about stock status and lead times before placing your order. **Catalog number key for antibody number 0716, Anti-Thymidylate Synthase (TS106 TMS715)** 

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Antibody reactivity (target) Antibody reactivity (target) Antibody type  Host species  Clonality  Monoclonal  Clone  TS106 + TMS715  Isotype  IgG's  Molecular weight  Synonyms  MTMP synthase, TMS, TS, TSase, TYMS protein, Tyms thymidylate synthetase  Human gene symbol  TYMS  Entrez gene ID  7298  SwissProt  Unigene  369762  Immunogen  Recombinant human thymidylate synthase (TS106 & TMS715)  Verified antibody  HC (FFPE) (verified)  Nucleus & cytoplasm  Human  Antibody application notes  Antibody application of direct detection using primary antibody conjugates than for indirect detection with secondary antibody, Immunofluorescence: 0.5-1 ug/mL, Immunohistology formalin-fixed 1-2 ug/mL, Staining of formalin-fixed 1-2 ug/mL, Staining of formalin-fixed 1-2 ug/mL, Staining of formalin-fixed susues is enhanced by boiling tissue sections in 10 mM citrate buffer, pH 6.0, for 10-20 min followed by cooling at RT for 20 minutes, Flow Cytometry 0.5-1 ug/million cells/0.1 mL, Optimal dilution for a specific application should be determined by user  Positive control  Storage Conditions  Storage Conditions  Storage Conditions  For research use only (RUO)  Antibody/conjugate formulation  Antibody/conjugate formulation  For research use only (RUO)  Antibody/conjugate formulation  Primary  Thymid ylate Synthase  The Tissue, TS as a specific application should be determined by user  Positive control  Storage Conditions  For each use only (RUO)  Antibody/conjugate formulation  Primary  Thymid primary  The Tissue Synthase  The Tissue Syn	<b>Product attributes</b>				
Clone	Antibody number	#0716			
Host species   Mouse	Antibody reactivity	Thymidylate Synthase			
Clone   TS106 + TMS715   Isotype   IgG's   Molecular weight   36 kDa   Synonyms   dTMP synthase, TMS, TS, TSase, TYMS protein, Tyms thymidylate synthetase   Human gene symbol   TYMS   Entrez gene ID   7298   SwissProt   P04818   Unigene   369762   Immunogen   Recombinant human thymidylate synthase (TS106 & TMS715)   Verified antibody   IHC (FFPE) (verified)   Antibody target cellular localization   Species reactivity   Nucleus & cytoplasm   Human   Antibody application notes   Higher concentration may be required for direct detection using primary antibody conjugates than for indirect detection with secondary antibody, Immunofluorescence: 0.5-1 ug/mL, Immunohistology formalin-fixed 1-2 ug/mL, Staining of formalin-fixed tissues is enhanced by boiling tissue sections in 10 mM citrate buffer, pH 6.0, for 10-20 min followed by cooling at RT for 20 minutes, Flow Cytometry 0.5-1 ug/million cells/0.1 mL, Optimal dilution for a specific application should be determined by user    Positive control   5-FU-resistant colon carcinoma cell lines (NCI He30R1), S-FU-resistant breast cancer cell lines, MCF-Ad5 and MCF-Ad10. Testicular carcinomas.   Shipping condition   Room temperature   Storage Conditions   Store at 2 to 8 °C, Protect fluorescent conjugates from light, Note: store BSA-free antibodies at -10 to -35 °C   Shelf life   Guaranteed for at least 24 months from date of receipt when stored as recommended   Regulatory status   For research use only (RUO)   Antibody/conjugate formulation   FBS/0.05% BSA, Purified: 0.2 mg/mL in PBS/0.05%	Antibody type	Primary			
Isotype   IgG's	Host species	Mouse			
Isotype   IgG's	Clonality	Monoclonal			
Molecular weight   36 kDa	Clone	TS106 + TMS715			
Synonyms dTMP synthase, TMS, TS, TSase, TYMS protein, Tyms thymidylate synthetase  Human gene symbol TYMS  Entrez gene ID 7298  SwissProt P04818  Unigene 369762  Immunogen Recombinant human thymidylate synthase (TS106 & TMS715)  Verified antibody IHC (FFPE) (verified)  Antibody target cellular localization Species reactivity  Antibody application notes  Antibody application notes  Higher concentration may be required for direct detection using primary antibody conjugates than for indirect detection with secondary antibody, Immunofilorescence: 0.5-1 ug/mL, Immunohistology formalin-fixed 1-2 ug/mL, Staining of formalin-fixed tissues is enhanced by boiling tissue sections in 10 mM citrate buffer, pH 6.0, for 10-20 min followed by cooling at RT for 20 minutes, Plow Cytometry 0.5-1 ug/million cells/0.1 mL, Optimal dilution for a specific application should be determined by user  Positive control 5-FU-resistant colon carcinoma cell lines (NCI H630R1), S-FU-resistant breast cancer cell lines, MCF-Ad5 and MCF-Ad10. Testicular carcinomas.  Shipping condition Room temperature  Storage Conditions  Storage Conditions  Stora at 2 to 8 °C, Protect fluorescent conjugates from light, Note: store SAA-free antibodies at -10 to -35 °C  Shelf life Guaranteed for at least 24 months from date of receipt when stored as recommended  Regulatory status  Antibody/conjugate formulation  Professor SAA/0.05% azide, HRP conjugates: 0.1 mg/mL in PBS/0.05% BSA, Purified: 0.2 mg/mL in PBS/0.05% BSA, Purified: 0.2 mg/mL in PBS/0.05% BSA/0.05% azide, Purified, BSA-free: 1 mm/mL in PBS	Isotype	IgG's			
Human gene symbol TYMS  Entrez gene ID 7298  SwissProt P04818  Unigene 369762  Immunogen Recombinant human thymidylate synthase (TS106 & TMS715)  Verified antibody IHC (FFPE) (verified)  Antibody target cellular localization Species reactivity  Antibody application notes  Higher concentration may be required for direct detection using primary antibody conjugates than for indirect detection with secondary antibody, Immunofiluorescence: 0.5-1 ug/mL, Immunohistology formalin-fixed 1-2 ug/mL, Staining of formalin-fixed tissues is enhanced by boiling tissue sections in 10 mM citrate buffer, pH 6.0, for 10-20 min followed by cooling at RT for 20 minutes, Plow Cytometry 0.5-1 ug/million cells/0.1 mL, Optimal dilution for a specific application should be determined by user  Positive control 5-FU-resistant colon carcinoma cell lines (NCI He30R1), S-FU-resistant breast cancer cell lines, MCF-Ad5 and MCF-Ad10. Testicular carcinomas.  Shipping condition Room temperature  Storage Conditions  Storage Conditions  Storage Conditions  For research use only (RUO)  Antibody/conjugate formulation  Antibody/conjugate formulation  For research use only (RUO)  Antibody/conjugate formulation  Tyms. In PBS/0.05% BSA, Purified. 2.2 mg/mL in PBS/0.05% BSA	Molecular weight	36 kDa			
Entrez gene ID 7298  SwissProt P04818  Unigene 369762  Immunogen Recombinant human thymidylate synthase (TS106 & TMS715)  Verified antibody IHC (FFPE) (verified)  Antibody target cellular localization Species reactivity  Antibody application notes  Antibody application notes  Higher concentration may be required for direct detection using primary antibody conjugates than for indirect detection with secondary antibody, Immunofluorescence: 0.5-1 ug/mL, Immunohistology formalin-fixed 1-2 ug/mL, Staining of formalin-fixed tissues is enhanced by boiling tissue sections in 10 mM citrate buffer, pH 6.0, for 10-20 min followed by cooling at RT for 20 minutes, Plow Cytometry 0.5-1 ug/million cells/0.1 mL, Optimal dilution for a specific application should be determined by user  Positive control  F-FU-resistant colon carcinoma cell lines (NCI H630R1), S-FU-resistant breast cancer cell lines, MCF-Ad5 and MCF-Ad10. Testicular carcinomas.  Shipping condition  Storage Conditions  Storage Conditions  Stora at 2 to 8 °C, Protect fluorescent conjugates from light, Note: store SAA-free antibodies at -10 to -35 °C  Shelf life  Guaranteed for at least 24 months from date of receipt when stored as recommended  Regulatory status  For research use only (RUO)  Antibody/conjugate formulation  Possitive Conjugates: 0.1 mg/mL in PBS/0.05% 8SA, Purified: 0.2 mg/mL in	Synonyms	TYMS protein, Tyms thymidylate			
SwissProt P04818  Unigene 369762  Immunogen Recombinant human thymidylate synthase (TS106 & TMS715)  Verified antibody Antibody target cellular localization Species reactivity  Antibody application notes  Antibody application notes  Higher concentration may be required for direct detection using primary antibody conjugates than for indirect detection with secondary antibody, Immunofluorescence: 0.5-1 ug/mL, Immunohistology formalin-fixed 1-2 ug/mL, Staining of formalin-fixed 1-2 ug/mL, Staining of formalin-fixed 1-2 ug/mL, Staining of formalin-fixed tissues is enhanced by boiling tissue sections in 10 mM citrate buffer, pH 6.0, for 10-20 min followed by cooling at RT for 20 minutes, Plow Cytometry 0.5-1 ug/million cells/0.1 mL, Optimal dilution for a specific application should be determined by user  Positive control  Fu-resistant colon carcinoma cell lines (NCI H630R1), S-FU-resistant colon carcinoma cell lines (NCI H630R10, NCI H630R1); 5-FU-resistant breast cancer cell lines, MCF-Ad5 and MCF-Ad10. Testicular carcinomas.  Shipping condition  Storage Conditions  Storage Conditions  Storage Conditions  Storage Conditions  Storage Conditions  Torigates from light, Note: store SAA-free antibodies at -10 to -35 °C  Shelf life  Guaranteed for at least 24 months from date of receipt when stored as recommended  Regulatory status  For research use only (RUO)  Antibody/conjugate formulation  Time The The Torigates: 0.1 mg/mL in PBS/0.05% BSA, Purified: 0.2 mg/	Human gene symbol	TYMS			
Unigene 369762  Immunogen Recombinant human thymidylate synthase (TS106 & TMS715)  Verified antibody The Control of Contr	Entrez gene ID	7298			
Immunogen	SwissProt	P04818			
synthase (TS106 & TMS715)  Verified antibody Antibody target cellular localization Species reactivity  Antibody application notes  Bala rea antibodies at -10 to -35 ° C  Antibody application notes	Unigene	369762			
Antibody target cellular localization Species reactivity  Antibody application notes  Higher concentration may be required for direct detection using primary antibody conjugates than for indirect detection with secondary antibody. Immunofluorescence: 0.5 1 ug/mL, Immunohistology formalin-fixed 1-2 ug/mL, Staining of formalin-fixed 1-2 ug/mL, Staining of formalin-fixed tissues is enhanced by boiling tissue sections in 10 mM citrate buffer, pH 6.0, for 10-20 min followed by cooling at RT for 20 min followed by cooling at RT for 20 min followed by cooling at RT for 20 minutes, Flow Cytometry 0.5-1 ug/mllion cells/0.1 mL, Optimal dilution for a specific application should be determined by user  Positive control  5-FU-resistant colon carcinoma cell lines (NCI H630R1), NCI H630R1); 5-FU-resistant breast cancer cell lines, MCF-Ad5 and MCF-Ad10. Testicular carcinomas.  Shipping condition  Storage Conditions  Storage Conditions  Storage Conditions  Storage Conditions  Storage Conditions  Storage Conditions  To research use only (RUO)  Antibody/conjugate formulation  Antibody/conjugate formulation  For research use only (RUO)  Antibody/conjugate formulation  Pas/0.05% azide, HRP conjugates: 0.1 mg/mL in PBS/0.05% BSA, Purified: 0.2 mg/mL	Immunogen				
Iocalization   Species reactivity   Human	Verified antibody	IHC (FFPE) (verified)			
Antibody application notes  Higher concentration may be required for direct detection using primary antibody conjugates than for indirect detection with secondary antibody, Immunofluorescence: 0.5-1 ug/mL, Immunohistology formalin-fixed 1-2 ug/mL, Staining of formalin-fixed sisues is enhanced by boiling tissue sections in 10 mM citrate buffer, pH 6.0, for 10-20 min followed by cooling at RT for 20 minutes, Flow Cytometry 0.5-1 ug/million cells/0.1 HL, Optimal dilution for a specific application should be determined by user  Positive control  F-FU-resistant colon carcinoma cell lines (NCI H630R10, NCI H630R11), S-FU-resistant colon carcinoma cell lines (NCI H630R10, NCI H630R11), S-FU-resistant breast cancer cell lines (NCI H630R10, NCI H630R11), S-FU-resistant breast cancer cell lines (NCI H630R10, NCI H630R11), S-FU-resistant breast cancer cell lines (NCI H630R10, NCI H630R11), S-FU-resistant breast cancer cell lines (NCI H630R10, NCI H630R11), S-FU-resistant breast cancer cell lines (NCI H630R10, NCI H630R11), S-FU-resistant breast cancer cell lines (NCI H630R10, NCI H630R11), S-FU-resistant breast cancer cell lines (NCI H630R11), NCI H630R11), S-FU-resistant breast cancer cell lines (NCI H630R11), NCI H630R11), S-FU-resistant breast cancer cell lines (NCI H630R11), NCI H630R11), S-FU-resistant breast cancer cell lines (NCI H630R11), NCI H630R11), S-FU-resistant breast cancer cell lines (NCI H630R11), NCI H630R11), S-FU-resistant breast cancer cell lines (NCI H630R11), NCI H630R11), S-FU-resistant breast cancer cell lines (NCI H630R11), NCI H630R11), S-FU-resistant breast cancer cell lines (NCI H630R11), NCI H630R11), S-FU-resistant breast cancer	Antibody target cellular	Nucleus & cytoplasm			
direct detection using primary antibody conjugates than for indirect detection with secondary antibody, Immunofluorescence: 0.5-1 ug/mL, Immunohistology formalin-fixed 1-2 ug/mL, Immunohistology formalin-fixed 1-2 ug/mL, Staining of formalin-fixed tissues is enhanced by boiling tissue sections in 10 mM citrate buffer, pH 6.0, for 10-20 min followed by cooling at RT for 20 minutes, Flow Cytometry 0.5-1 ug/million cells/0.1 mL, Optimal dilution for a specific application should be determined by user  Positive control  5-FU-resistant colon carcinoma cell lines (NCI H630R1), NCI H630R1); 5-FU-resistant breast cancer cell lines, MCF-Ad5 and MCF-Ad10. Testicular carcinomas.  Shipping condition  Room temperature  Storage Conditions  Storage Conditions  Storage Conditions  Storage Conditions  Storage Conditions  Storage Conditions  For at 2 to 8 °C, Protect fluorescent conjugates from light, Note: store BSA-free antibodies at -10 to -35 °C  Shelf life  Guaranteed for at least 24 months from date of receipt when stored as recommended  Regulatory status  For research use only (RUO)  Antibody/conjugate formulation  For passion, HRP conjugates: 0.1 mg/mL in PBS/0.05% BSA, Purified: 0.2 mg/mL in PBS/0.05% BSA,	Species reactivity	Human			
(NCI H630R1), NCI H630R1); 5-FU-resistant breast cancer cell lines, MCF-Ad5 and MCF-Ad10. Testicular carcinomas.  Shipping condition  Room temperature  Storage Conditions  Storage Conditions  Storage Conditions  Storage at 2 to 8 °C, Protect fluorescent conjugates from light, Note: store BSA-free antibodies at -10 to -35 °C  Shelf life  Guaranteed for at least 24 months from date of receipt when stored as recommended  Regulatory status  For research use only (RUO)  Antibody/conjugate formulation  Conjugates: 0.1 mg/mL in PBS/0.05% BSA, Purified. 0.2 mg/mL in PBS/0.05% BSA, Purified. 0.2 mg/mL in PBS/0.05% BSA/0.05% azide, Purified, BSA-free: 1 mg/mL in PBS		direct detection using primary antibody conjugates than for indirect detection with secondary antibody. Immunofluorescence: 0.5-1 ug/mL, Immunofluorescence: 0.5-1 ug/mL, Immunofluorescence: 0.5-1 ug/mL, Staining of formalin-fixed 1-2 ug/mL, Staining of formalin-fixed tissues estions in 10 mM citrate buffer, pH 6.0, for 10-20 min followed by cooling at RT for 20 minutes, Flow Cytometry 0.5-1 ug/million cells/0.1 mL, Optimal dilution for a specific application should be			
Storage Conditions Store at 2 to 8 °C, Protect fluorescent conjugates from light, Note: store BSA-free antibodies at -10 to -35 °C Shelf life Guaranteed for at least 24 months from date of receipt when stored as recommended  Regulatory status For research use only (RUO) Antibody/conjugates formulation  Conjugates: 0.1 mg/mL in PBS/0.1% BSA/0.05% azide, HRP conjugates: 0.1 mg/mL in PBS/0.05% BSA, Purified: 0.2 mg/mL in PBS/0.05% BSA, Purified: 0.2 mg/mL in PBS/0.05% BSA/0.05% azide, Purified, BSA-free: 1 mg/mL in PBS/0.05% azide, Purified: 0.84-free: 1 mg/mL in PBS/0.05%	Positive control	(NCI H630R10, NCI H630R1); 5-FU-resistant breast cancer cell lines, MCF-Ad5 and MCF-Ad10. Testicular			
conjugates from light, Note: store BSA-free antibodies at -10 to -35 ° C  Shelf life Guaranteed for at least 24 months from date of receipt when stored as recommended  Regulatory status For research use only (RUO)  Antibody/conjugates formulation Conjugates: 0.1 mg/mL in PBS/0.05% BSA, Purified: 0.2 mg/mL in PBS/0.05% BSA, Purified: 0.2 mg/mL in PBS/0.05% BSA/0.05% azide, Purified, BSA-free: 1 mg/mL in PBS/0.05% azide, Purified: 0.85A-free: 1	Shipping condition	Room temperature			
date of receipt when stored as recommended  Regulatory status For research use only (RUO)  Antibody/conjugate formulation Conjugates: 0.1 mg/mL in PBS/0.1% BSA/0.05% azide, HRP conjugates: 0.1 mg/mL in PBS/0.05% BSA, Purified: 0.2 mg/mL in PBS/0.05% BSA/0.05% azide, Purified, BSA-free: 1 mg/mL in PBS/0.05% azide, Purified, BSA-free: 1 mg/mL in PBS/0.05% azide, Purified; BSA-free: 1 mg/mL in PBS/0.05% azide, PBS/0.05% azide, Purified; BSA-free: 1 mg/mL in PBS/0.05% azide, Purified; BSA-free: 1 mg/mL in PBS/0.05% azide, PBS/0.05% azide, PBS-free: 1 mg/mL in PBS-free: 1 mg/	Storage Conditions	conjugates from light, Note: store			
Antibody/conjugate formulation  Conjugates: 0.1 mg/mL in PBS/0.1% BSA/0.05% azide, HRP conjugates: 0.1 mg/mL in PBS/0.05% BSA, Purified: 0.2 mg/mL in PBS/0.05% BSA, Purified: 0.2 mg/mL in PBS/0.05% BSA/0.05% azide, Purified, BSA-free: 1 mg/mL in PBS	Shelf life	date of receipt when stored as			
formulation  BSA/0.05% azide, HRP conjugates: 0.1  mg/mL in PBS/0.05% BSA, Purffied: 0.2  mg/mL in PBS/0.05% BSA/0.05% azide,  Purffied, BSA-free: 1 mg/mL in PBS	Regulatory status	For research use only (RUO)			
without azide	Antibody/conjugate formulation	BSÁ/0.05% azide, HRP conjugates: 0.1 mg/mL in PBS/0.05% BSA, Purified: 0.2 mg/mL in PBS/0.05% BSA/0.05% azide, Purified, BSA-free: 1 mg/mL in PBS			

Antibody research areas Cancer, Metabolism

Email: btinfo@biotium.com

Antibody # prefix BNC04	Conjugation CF®405S	Ex/Em (nm) 404/431	Laser line 405	<b>Detection channel</b> DAPI (microscopy),	Dye Features <a href="mailto:CF8405S Features">CF8405S Features</a>
				AF405	
BNC88	CF®488A	490/515	488	GFP, FITC	CF®488A Features
BNC68	CF®568	562/583	532, 561	RFP, TRITC	CF®568 Features
BNC94	CF®594	593/614	561	Texas Red®	CF®594 Features
BNC40	CF®640R	642/662	633-640	Cy®5	CF®640R Features
BNC47	CF®647	650/665	633-640	Cy®5	CF®647 Features
BNCB	Biotin	N/A	N/A	N/A	
BNUB	Purified	N/A	N/A	N/A	
BNUM	Purified.	N/A	N/A	N/A	

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