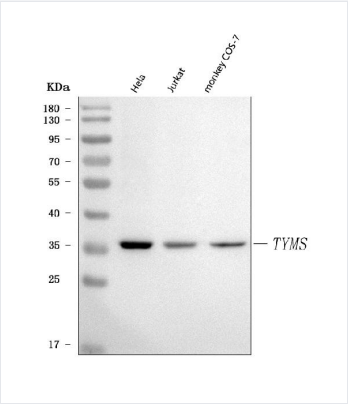
Thymidylate Synthase/TYMS (TYMS) Antibody – Rabbit Polyclonal

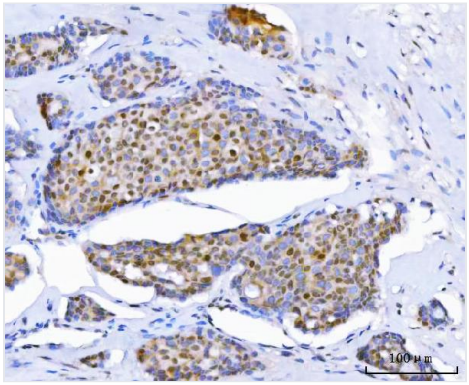
PRODUCT OVERVIEW

Product Name	Thymidylate Synthase/TYMS, Polyclonal Antibody
Full Product Name	Anti-Thymidylate Synthase/TYMS Antibody Picoband
Product Gene Name	anti-TYMS antibody
Clonality	Polyclonal
Isotype	Rabbit IgG
Host	Rabbit
Species Reactivity	Human, Monkey, Rat
Form/Format	Lyophilized Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
Purity/Purification	Immunogen affinity purified.
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml. (lot specific)
Preparation and Storage	Store at -20 degree C for one year from date of receipt. After reconstitution, at 4 degree C for one month. It can also be aliquotted and stored frozen at -20 degree C for six months.Avoid repeated freezing and thawing.
Molecular Weight	Calculated MW: 26kDa/31kDa/35kDa Observed MW: 36kDa
OMIM	188350
3D Structure	ModBase 3D Structure for P04818
Reconstitution	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Immunogen	E Coli-derived human Thymidylate Synthase/TYMS recombinant protein (Position: M1-V313).
Product Categories/Family for anti-TYMS antibody	Primary Antibodies, Rabbit Polyclonal Antibodies
ISO Certification	Manufactured in an ISO 13485:2003 and EN ISO 13485:2012 Certified Laboratory.
Applications Tested/Suitable for anti-TYMS antibody	ELISA (EIA), Immunofluorescence (IF), Immunohistochemistry (IHC), Western Blot (WB)
Application Notes for anti-TYMS antibody	WB: 0.25-0.5 ug/ml, Human, Monkey IHC-P: 2-5 ug/ml, Human, Rat IF: 5 ug/ml, Human Direct ELISA: 0.1-0.5 ug/ml, Human Tested Species: In-house tested species with positive results. Enhanced Chemiluminescent Kit with anti-Rabbit IgG (#MBS176460) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (#MBS176453) for IHC(P).
Related Product Information for anti-TYMS antibody	Thymidylate synthase catalyzes the methylation of deoxyuridylate to deoxythymidylate using, 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, mitochondrial enolase superfamily member 1 (GeneID:55556), vary inversely when cell-growth progresses from late-log to plateau phase. Polymorphisms in this gene may be associated with etiology of neoplasia, including breast cancer, and response to chemotherapy.

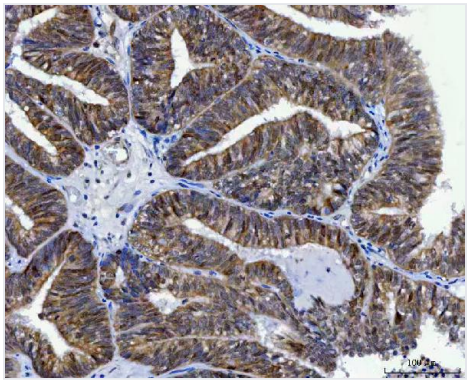
Other Notes	Small volumes of anti-TYMS antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for TYMS purchase	MBS1755340 is an antibody targeting TYMS. Also known as Anti-Thymidylate Synthase/TYMS Antibody Picoband. Reactive in Human, Monkey, Rat. Host: Rabbit.



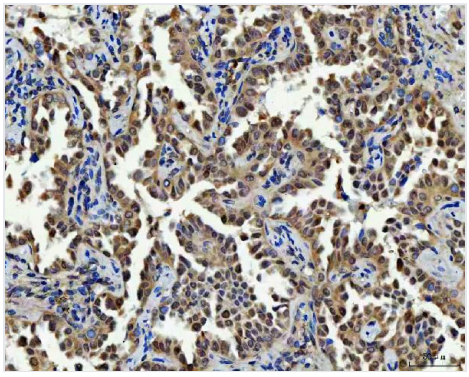
Western Blot (WB) of anti-TYMS antibody
Figure 1. Western blot analysis of Thymidylate Synthase/TYMS using anti-Thymidylate Synthase/TYMS antibody (MBS1755340).Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel)/90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.Lane 1: human Hela whole cell lysates,Lane 2: human Jurkat whole cell lysates,Lane 3: monkey COS-7 whole cell lysates.After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-Thymidylate Synthase/TYMS antigen affinity purified polyclonal antibody (#MBS1755340) at 0.5 ug/mL overnight at 4 degree C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit with Tanon 5200 system. A specific band was detected for Thymidylate Synthase/TYMS at approximately 36 kDa. The expected band size for Thymidylate Synthase/TYMS is at 36 kDa.



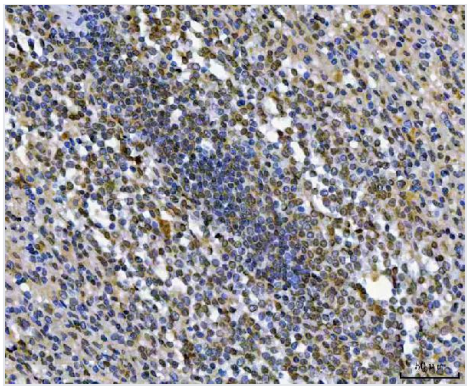
Immunohistochemistry (IHC) of anti-TYMS antibody
Figure 2. IHC analysis of Thymidylate Synthase/TYMS using anti-Thymidylate Synthase/TYMS antibody (MBS1755340).Thymidylate Synthase/TYMS was detected in a paraffin-embedded section of human breast cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-Thymidylate Synthase/TYMS Antibody (MBS1755340) overnight at 4 degree C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit with DAB as the chromogen.



Immunohistochemistry (IHC) of anti-TYMS antibody
Figure 3. IHC analysis of Thymidylate Synthase/TYMS using anti-Thymidylate Synthase/TYMS antibody (MBS1755340).Thymidylate Synthase/TYMS was detected in a paraffin-embedded section of human endometrial adenocarcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-Thymidylate Synthase/TYMS Antibody (MBS1755340) overnight at 4 degree C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit with DAB as the chromogen.

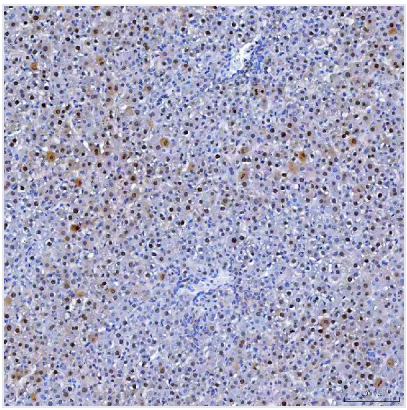


Immunohistochemistry (IHC) of anti-TYMS antibody
Figure 4. IHC analysis of Thymidylate Synthase/TYMS using anti-Thymidylate Synthase/TYMS antibody (MBS1755340).Thymidylate Synthase/TYMS was detected in a paraffin-embedded section of human lung cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-Thymidylate Synthase/TYMS Antibody (MBS1755340) overnight at 4 degree C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit with DAB as the chromogen.



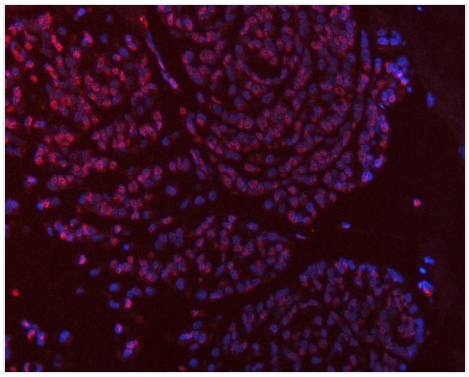
Immunohistochemistry (IHC) of anti-TYMS antibody

Figure 5. IHC analysis of Thymidylate Synthase/TYMS using anti-Thymidylate Synthase/TYMS antibody (MBS1755340).Thymidylate Synthase/TYMS was detected in a paraffin-embedded section of human spleen tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-Thymidylate Synthase/TYMS Antibody (MBS1755340) overnight at 4 degree C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit with DAB as the chromogen.



Immunohistochemistry (IHC) of anti-TYMS antibody

Figure 6. IHC analysis of Thymidylate Synthase/TYMS using anti-Thymidylate Synthase/TYMS antibody (MBS1755340).Thymidylate Synthase/TYMS was detected in a paraffin-embedded section of rat liver tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-Thymidylate Synthase/TYMS Antibody (MBS1755340) overnight at 4 degree C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit with DAB as the chromogen.



Immunofluorescence (IF) of anti-TYMS antibody

Figure 7. IF analysis of Thymidylate Synthase/TYMS using anti-Thymidylate Synthase/TYMS antibody (MBS1755340).Thymidylate Synthase/TYMS was detected in a paraffin-embedded section of human breast cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 5 ug/mL rabbit anti-Thymidylate Synthase/TYMS Antibody (MBS1755340) overnight at 4 degree C. DyLight550 Conjugated Goat Anti-Rabbit IgG (BA1135) was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37 degree C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for TYMS. It may not necessarily be applicable to this product.

NCBI GI #	136611
NCBI GeneID	7298
NCBI Accession #	P04818.3
UniProt Primary Accession #	P04818
UniProt Secondary Accession #	Q8WYK3; Q8WYK4
UniProt Related Accession #	P04818
NCBI Official Full Name	Thymidylate synthase
NCBI Official Synonym Full Names	thymidylate synthetase

NCBI Official Symbol	TYMS
NCBI Official Synonym Symbols	TS; TMS; HST422
UniProt Protein Name	Thymidylate synthase
UniProt Gene Name	TYMS
UniProt Synonym Gene Names	TS; TS; TSase
UniProt Entry Name	TYSY_HUMAN
NCBI Protein Information	thymidylate synthase; TSase
NCBI Summary for 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 occuring antisense transcript rTSalpha (GeneID:55556) vary inversely when cell-growth progresses from late-log to plateau phase. [provided by RefSeq, Jul 2008]
UniProt Comments for TYMS	TYMS: an enzyme in the thymidylate synthase family. Polymorphisms serve as prognostic markers for determining modality of treatment in certain cancers. Genotyping helps predict toxicity to 5-FU-based chemotherapy in patients with colorectal cancer and the response to platinum-based chemotherapy in advanced NSCLC. A common polymorphism is a determinant of red blood cell folate and homocysteine concentrations. Homodimer. Protein type: Nucleotide Metabolism - pyrimidine; Cofactor and Vitamin Metabolism - one carbon pool by folate; DNA repair, damage; EC 2.1.1.45; Mitochondrial; Methyltransferase Chromosomal Location of Human Ortholog: 18p11.32 Cellular Component: nucleoplasm; mitochondrion; mitochondrial matrix; cytoplasm; mitochondrial inner membrane; nucleolus; nucleus; cytosol Molecular Function: mRNA binding; protein homodimerization activity; nucleotide binding; drug binding; cofactor binding; thymidylate synthase activity; folic acid binding Biological Process: immortalization of host cell by virus; methylation; tetrahydrofolate metabolic process; circadian rhythm; uracil metabolic process; developmental growth; response to organophosphorus; response to toxin; response to glucocorticoid stimulus; dTTP biosynthetic process; response to vitamin A; pyrimidine base metabolic process; response to folic acid; nucleobase, nucleoside, nucleotide and nucleic acid metabolic process; aging; response to drug; organ regeneration; nucleobase, nucleoside and nucleotide metabolic process; dTMP biosynthetic process; deoxyribonucleoside monophosphate biosynthetic process; G1/S-specific transcription in mitotic cell cycle; response to ethanol; response to cytokine stimulus; cartilage development; pyrimidine nucleoside biosynthetic process; dUMP metabolic process; mitotic cell cycle; response to progesterone stimulus; G1/S transition of mitotic cell cycle
Research Articles on TYMS	**1.** the TYMS polymorphisms may be useful tools to predict which advanced NSCLC patients could benefit more from platinum-based chemotherapy regimens.
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Product Note	Select online data sheet information is drawn from bioinformatics databases, occasionally resulting in ambiguous or non-relevant product information. It is the responsibility of the customer to review, verify, and evaluate the information to make sure it matches their requirements before purchasing the kit. Our ELISA Kit assays are dynamic research tools and sometimes they may be updated and improved. If the format of this assay is important to you then please request the current manual or contact our technical support team with a presales inquiry before placing an order. We will confirm the current details of the assay. We cannot guarantee the sample manual posted online is the most current manual, it is intended to serve as an example only. Please refer to the instructions For Use provided with the assay kit for precise details.

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