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Thymidylate Synthase Rabbit mAb

Catalog # AP76174

Product Information

Application	WB, IHC-P, IHC-F, FC, IP
Primary Accession	P04818
Reactivity	Rat, Human, Mouse
Host	Rabbit
Clonality	Monoclonal Antibody
Isotype	IgG
Conjugate	Unconjugated
Purification	Affinity Purified
Calculated MW	35716

Additional Information

Gene ID	7298
Other Names	TYMS
Dilution	WB~~1:1000-1:5000 IHC-P~~N/A IHC-F~~N/A FC~~1:10-1:100 IP~~1:10-1:100
Format	Liquid in 50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% sodium azide and 0.05% BSA.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

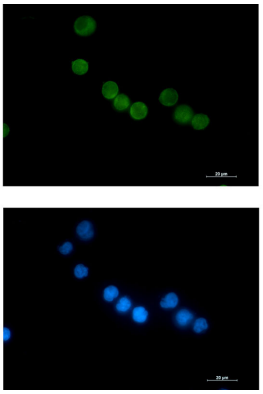
Protein Information

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 (CH2H4folate) as a 1- carbon donor and reductant and contributes to the mitochondrial and nuclear de novo thymidylate biosynthesis pathway.
Cellular Location	Nucleus. Cytoplasm Mitochondrion. Mitochondrion matrix. Mitochondrion inner membrane. Note=Localized to the nucleus during S and G2/M phases of the cell cycle. As a component of the de novo thymidylate synthesis complex, localizes specifically to replication forks during DNA synthesis (PubMed:22235121)

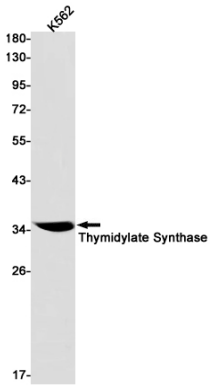
Background

Thymidylate synthase is a homodimer composed of two 30 kDa subunits, which catalyze the methylation of deoxyuridine monophosphate (dUMP) to deoxythymidine monophosphate (dTMP), an essential step in the formation of thymine nucleotides. Thymidylate synthase is an intracellular enzyme that provides the sole de novo source of thymidylate, making it a required enzyme in DNA biosynthesis with activity highest in proliferating cells. Being the exclusive source of dTMP, investigators have concluded that TS is also an important target for anticancer agents such as 5-fluorouracil (5-FU). 5-FU acts as a TS inhibitor and is active against solid tumors such as colon, breast, head, and neck.

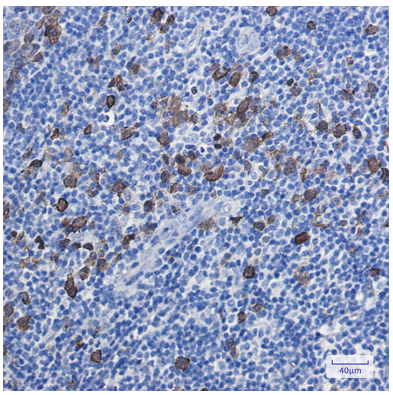
Images



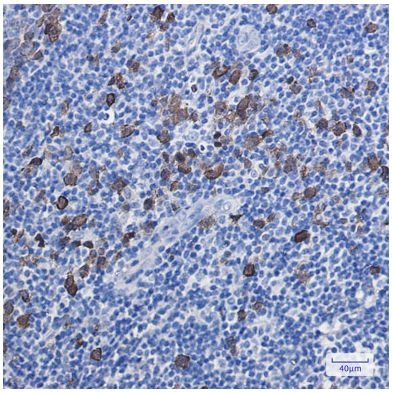
Immunocytochemistry analysis of Thymidylate Synthase (green) in Jurkat using Thymidylate Synthase antibody,and DAPI(blue).

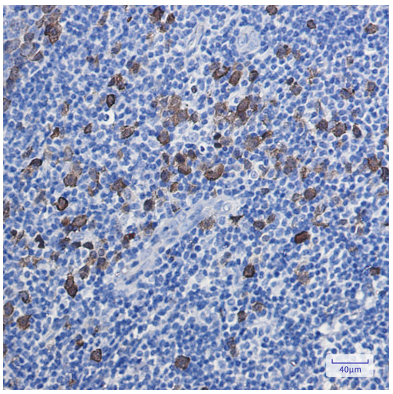


Western blot analysis of Thymidylate Synthase in K562 lysates using Thymidylate Synthase antibody.



Immunohistochemistry analysis of paraffin-embedded Human tonsil using Thymidylate Synthase antibody. High-pressure and temperature Sodium Citrate pH 6.0 was used for antigen retrieval.





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