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#5449

Thymidylate Synthase (D26G11) Rabbit mAb



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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP	H M R Hm Mk	Endogenous	30	Rabbit IgG	#P04818	7298

Product Usage Information	Application	Dilution
	Western Blotting	1:1000
	Immunoprecipitation	1:100
Storage	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.	
Specificity / Sensitivity	Thymidylate Synthase (D26G11) Rabbit mAb detects endogenous levels of total Thymidylate Synthase protein.	
Source / Purification	Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to central residues of human Thymidylate Synthase protein.	
Background	The methylation of deoxyuridine monophosphate (dUMP) to deoxythymidine monophosphate (dTMP) is an essential step in the formation of thymine nucleotides (1,2, reviewed in 3). This process is catalyzed by thymidylate synthase (TS or TYMS), a homodimer composed of two 30 kDa subunits. TS is an intracellular enzyme that provides the sole <i>de novo</i> source of thymidylate, making it a required enzyme in DNA biosynthesis with activity highest in proliferating cells (1). 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) (1-5). 5-FU acts as a TS inhibitor and is active against solid tumors such as colon, breast, head, and neck. Research studies have demonstrated that patients with metastases expressing lower levels of TS have a higher response rate to treatment with 5-FU than patients with tumors that have increased levels of TS (5). Researchers continue to investigate TS expression in different types of cancers (6-10).	
Background References	<ol style="list-style-type: none"> 1. Johnston, P.G. et al. (1991) <i>Cancer Res</i> 51, 6668-76. 2. Aschele, C. et al. (2002) <i>Ann Oncol</i> 13, 1882-92. 3. Jackman, A.L. and Calvert, A.H. (1995) <i>Ann Oncol</i> 6, 871-81. 4. Van Triest, B. et al. (2000) <i>J Histochem Cytochem</i> 48, 755-60. 5. Johnston, P.G. et al. (1994) <i>J Clin Oncol</i> 12, 2640-7. 6. Kwon, H.C. et al. (2007) <i>Ann Oncol</i> 18, 504-9. 7. Allegra, C.J. et al. (2002) <i>J Clin Oncol</i> 20, 1735-43. 8. Allegra, C.J. et al. (2003) <i>J Clin Oncol</i> 21, 241-50. 9. Tsourouflis, G. et al. (2008) <i>Dig Dis Sci</i> 53, 1289-96. 10. Kim, S.H. et al. (2009) <i>Am J Clin Oncol</i> 32, 38-43. 	

Species Reactivity	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
Western Blot Buffer	IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.
Applications Key	WB: Western Blotting IP: Immunoprecipitation
Cross-Reactivity Key	H: human M: mouse R: rat Hm: hamster Mk: monkey Vir: virus Mi: mink C: chicken Dm: D. melanogaster X: Xenopus Z: zebrafish B: bovine Dg: dog Pg: pig Sc: S. cerevisiae Ce: C. elegans Hr: horse GP: Guinea Pig Rab: rabbit All: all species expected
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