

Store at  
-20C  
#93925**CAD (D2T8H) 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:
W, IP	H M R	Endogenous	240	Rabbit IgG	#P27708	790

**Product Usage Information****Application**Western Blotting  
Immunoprecipitation**Dilution**1:1000  
1:50**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**

CAD (D2T8H) Rabbit mAb recognizes endogenous levels of total CAD protein.

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human CAD protein.

**Background**

CAD is essential for the *de novo* synthesis of pyrimidine nucleotides and possesses the following enzymatic activities: glutamine amidotransferase, carbamoyl-phosphate synthetase, aspartate transcarbamoylase, and dihydroorotase. Thus, the enzyme converts glutamine to uridine monophosphate, a common precursor of all pyrimidine bases, and it is necessary for nucleic acid synthesis (1). In resting cells, CAD is localized mainly in the cytoplasm where it carries out pyrimidine synthesis. As proliferating cells enter S phase, MAP Kinase (Erk1/2) phosphorylates CAD at Thr456, resulting in CAD translocation to the nucleus. As cells exit S phase, CAD is dephosphorylated at Thr456 and phosphorylated at Ser1406 by PKA, returning the pathway to basal activity (2). Various research studies have shown increased expression of CAD in several types of cancer, prompting the development of pharmacological inhibitors such as PALA. Further studies have identified CAD as a potential predictive early marker of prostate cancer relapse (3).

**Background References**

1. Coleman, P.F. et al. (1977) *J Biol Chem* 252, 6379-85.
2. Sigoillot, F.D. et al. (2005) *J Biol Chem* 280, 25611-20.
3. Morin, A. et al. (2012) *FASEB J* 26, 460-7.

**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****W:** Western Blotting **IP:** Immunoprecipitation**Cross-Reactivity Key****H:** Human **M:** Mouse **R:** Rat**Trademarks and Patents**

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