Product name:	CAD (phospho Thr456) Rabbit Polyclonal Antibody
Cat number:	ABN04348
Conjugate:	Unconjugated
Size:	100µL
Clone:	Polyclonal
Concentration:	1mg/ml
Host:	Rabbit
Isotype:	IgG
Immunogen:	The antiserum was produced against synthesized peptide derived from human CAD around the phosphorylation site of Thr456. AA range:422-471
Reactivity:	Human,Mouse
Applications:	IHC 1:100-1:300,ICC/IF 1:50-1:200,ELISA 1:5000-1:10000
Purification:	Affinity purification
Form:	Liquid
Buffer:	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% New type preservative N.
Storage:	Store at 4°C short term. Aliquot and store at -20°C for 12 months. Avoid freeze/thaw cycles.

Background:

The de novo synthesis of pyrimidine nucleotides is required for mammalian cells to proliferate. This gene encodes a trifunctional protein which is associated with the enzymatic activities of the first 3 enzymes in the 6-step pathway of pyrimidine biosynthesis: carbamoylphosphate synthetase (CPS II), aspartate transcarbamoylase, and dihydroorotase. This protein is regulated by the mitogen-activated protein kinase (MAPK) cascade, which indicates a direct link between activation of the MAPK cascade and de novo biosynthesis of pyrimidine nucleotides. Alternative splicing results in multiple transcript variants encoding different isoforms. [provided by RefSeq, Apr 2015],catalytic activity:(S)-dihydroorotate + H(2)O = N-carbamoyl-L-aspartate.,catalytic activity:2 ATP + L-glutamine + HCO(3)(-) + H(2)O = 2 ADP + phosphate + L-glutamate + carbamoyl phosphate.,catalytic activity:Carbamoyl phosphate + L-aspartate = phosphate + N-carbamoyl-L-aspartate.,cofactor:Binds 1 zinc ion per subunit (for dihydroorotase activity) .,enzyme regulation:Allosterically regulated and controlled by phosphorylation. 5-phosphoribose 1-diphosphate is an activator while UMP is an inhibitor of the CPSase reaction.,function:This protein is a "fusion" protein encoding four enzymatic activities of the pyrimidine pathway (GATase, CPSase, ATCase and DHOase).,miscellaneous:GATase (glutamine amidotransferase) and CPSase (carbamoyl phosphate synthase) form together the glutamine-dependent CPSase (GD-CPSase) (EC 6.3.5.5).,online information:Aspartate carbamoyltransferase entry,pathway:Pyrimidine metabolism; UMP biosynthesis via de novo pathway; UMP from HCO(3)(-): step 1/6.,pathway:Pyrimidine metabolism; UMP biosynthesis via de novo pathway; UMP from HCO(3)(-): step 2/6.,pathway:Pyrimidine metabolism; UMP biosynthesis via de novo pathway; UMP from HCO(3)(-): step 3/6.,similarity:Belongs to the ATCase/OTCase family.,similarity:Contains 1 glutamine amidotransferase type-1 domain.,similarity:Contains 2 ATP-grasp domains.,similarity:In the central section; belongs to the DHOase family.,subunit:Homohexamer.,