Product Name: CAD Rabbit Polyclonal Antibody
Catalog #: APRab07823

Summary

Production Name	CAD Rabbit Polyclonal Antibody
Description	Rabbit Polyclonal Antibody
Host	Rabbit
Application	IHC,ELISA
Reactivity	Human,Mouse

Performance

Conjugation	Unconjugated
Modification	Unmodified
Isotype	IgG
Clonality	Polyclonal
Form	Liquid
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.
Buffer	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% New type preservative N.
Purification	Affinity purification

Immunogen

Gene Name	CAD
Alternative Names	CAD; CAD protein
Gene ID	790.0
SwissProt ID	P27708.The antiserum was produced against synthesized peptide derived from human CAD. AA range:422-471

Application

Dilution Ratio	IHC 1:100-1:300 ELISA: 1:20000
Molecular Weight	250kD

Background

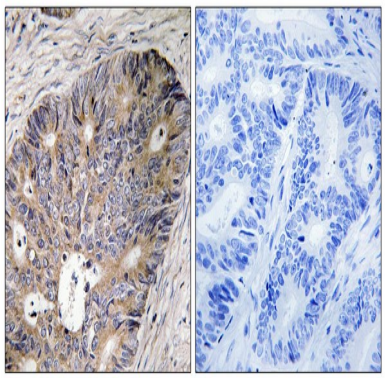
The de novo synthesis of pyrimidine nucleotides is required for mammalian cells to proliferate. This gene encodes a

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.,

Research Area

Pyrimidine metabolism;Alanine; aspartate and glutamate metabolism;

Image Data



Immunohistochemistry analysis of paraffin-embedded human colon carcinoma tissue, using CAD Antibody. The picture on the right is blocked with the synthesized peptide.

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Note

For research use only.