Product Name: **CAD Rabbit Polyclonal Antibody**
Catalog #: **APRab07823**
For research use only.

Summary

Description	Rabbit polyclonal Antibody
Host	Rabbit
Application	IHC,ICC/IF,ELISA
Reactivity	Human,Mouse
Conjugation	Unconjugated
Modification	Unmodified
Isotype	IgG
Clonality	Polyclonal
Form	Liquid
Concentration	1mg/ml
Storage	Aliquot and store at -20°C (valid for 12 months). Avoid freeze/thaw cycles.
Shipping	Ice bags
Buffer	Liquid in PBS containing 50% glycerol, 0.5% protective protein and 0.02% New type preservative N.
Purification	Affinity purification

Application

Dilution Ratio	IHC 1:100-1:300,ICC/IF 1:50-1:200,ELISA 1:10000-1:20000
Molecular Weight	250kDa

Antigen Information

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

Background

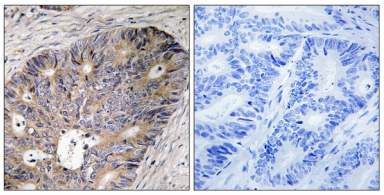
The de novo synthesis of pyrimidine nucleotides is required for mammalian cells to proliferate. This gene encodes a

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.