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CAD Antibody
Rabbit Polyclonal Antibody
Catalog # ALS13239

Specification

CAD Antibody - Product Information

Application	**IHC**
Primary Accession	P27708
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Calculated MW	**243kDa KDa**

CAD Antibody - Additional Information

Gene ID 790

Other Names
CAD protein, Glutamine-dependent carbamoyl-phosphate synthase, 6.3.5.5, Aspartate carbamoyltransferase, 2.1.3.2, Dihydroorotase, 3.5.2.3, CAD

Target/Specificity
Human CAD. Predicted cross-reactivity based on amino acid sequence homology: mouse (92%), rat (92%).

Reconstitution & Storage
Aliquot and store at -20°C. Minimize freezing and thawing.

Precautions
CAD Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

CAD Antibody - Protein Information

Name CAD (HGNC:1424)

Function
Multifunctional protein that encodes the first 3 enzymatic activities of the de novo pyrimidine pathway: carbamoylphosphate synthetase (CPSase; EC 6.3.5.5), aspartate transcarbamylase (ATCase; EC 2.1.3.2) and dihydroorotase (DHOase; EC 3.5.2.3). The CPSase-function is accomplished in 2 steps, by a glutamine-dependent amidotransferase activity (GATase) that binds and cleaves glutamine to produce ammonia, followed by an ammonium-dependent carbamoyl phosphate synthetase, which reacts with the ammonia, hydrogencarbonate and ATP to form carbamoyl phosphate. The endogenously produced carbamoyl phosphate is sequestered and channeled to the ATCase active site. ATCase then catalyzes the formation of carbamoyl-L-aspartate from L-aspartate and carbamoyl phosphate. In the last step, DHOase catalyzes the cyclization of carbamoyl aspartate to dihydroorotate.

Cellular Location

Cytoplasm. Nucleus. Note=Cytosolic and unphosphorylated in resting cells, translocates to the nucleus in response to EGF stimulation, nuclear import promotes optimal cell growth

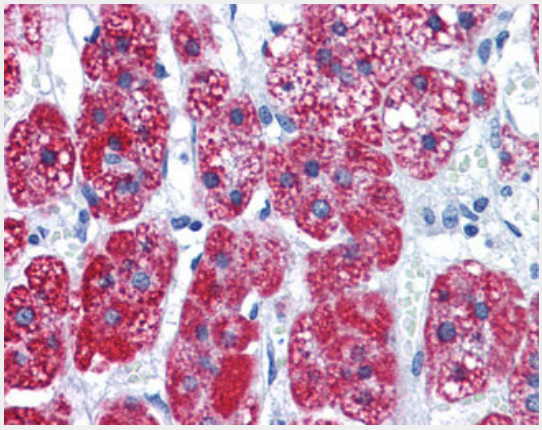
Volume
100 µl

CAD Antibody - Protocols

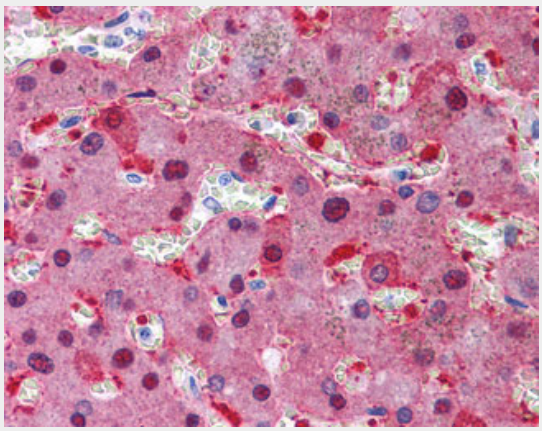
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

CAD Antibody - Images



Anti-CAD antibody IHC of human adrenal.



Anti-CAD antibody IHC of human liver.

CAD Antibody - Background

This protein is a "fusion" protein encoding four enzymatic activities of the pyrimidine pathway (GATase, CPSase, ATCase and DHOase).

CAD Antibody - References

Iwahana H.,et al.Biochem. Biophys. Res. Commun. 219:249-255(1996).
Mural R.J.,et al.Submitted (SEP-2005) to the EMBL/GenBank/DDBJ databases.
Bienvenut W.V.,et al.Submitted (FEB-2008) to UniProtKB.
Davidson J.N.,et al.DNA Cell Biol. 9:667-676(1990).
Zimmermann B.H.,et al.Biochemistry 34:7038-7046(1995).