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Anti-CAD antibody
Catalog # ABO12844

Specification

Anti-CAD antibody - Product Information

Application	**WB, E**
Primary Accession	P27708
Host	**Rabbit**
Reactivity	**Human, Mouse**
Clonality	**Polyclonal**
Format	**Lyophilized**

Description
Rabbit IgG polyclonal antibody for CAD detection. Tested with WB, Direct ELISA in Human;Mouse.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-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

Application Details
Western blot, 0.1-0.5 µg/ml
 Direct ELISA, 0.1-0.5 µg/ml

Subcellular Localization
CPSase

Tissue Specificity
ATCase and DHOase). "

Source
Cytoplasm.

Contents
Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg NaN₃.

Immunogen
E. coli-derived human CAD recombinant protein (Position: L1555-K1780).

Cross Reactivity
No cross reactivity with other proteins.

Storage	**At -20˚C; for one year. After r˚Constitution, at 4˚C; for one month. It˚Can also be**

aliquotted and stored frozen at -20˚C; for a longer time. Avoid repeated freezing and thawing.

Anti-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

Anti-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

Anti-CAD antibody - Images

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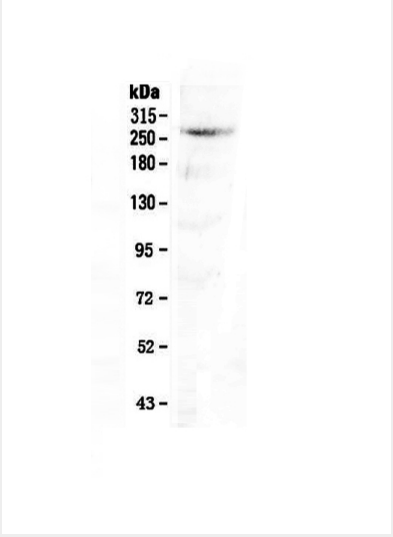

Figure 1. Western blot analysis of CAD using anti-CAD antibody (ABO12844).

Anti-CAD antibody - Background

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