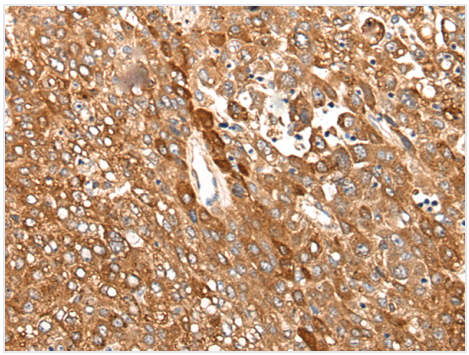
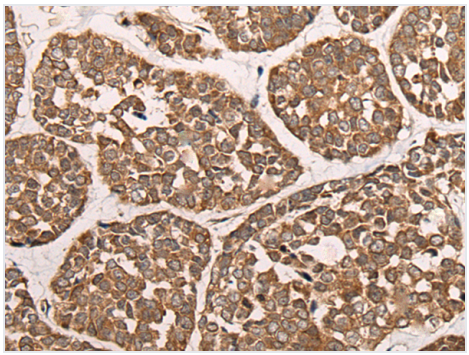
CAD Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	CAD, Polyclonal Antibody
Full Product Name	CAD Polyclonal Antibody
Product Gene Name	anti-CAD antibody
Product Synonym Names	Aspartate carbamoyltransferase; Aspartate transcarbamylase; CAD protein; CAD trifunctional protein; Carbamoyl phosphate synthetase 2; Carbamoyl-phosphate synthetase 2 aspartate transcarbamylase and dihydroorotase; CPSase ATCase DHOase; Dihydroorotase; Glutamine dependent carbamoyl phosphate synthase; Multifunctional protein CAD
Clonality	Polyclonal
Isotype	IgG
Host	Rabbit
Species Reactivity	Human, Mouse
Form/Format	PBS with 0.05% NaN3 and 40% Glycerol, pH7.4
Purity/Purification	Antigen Affinity Purification
Concentration	0.7mg/mL (lot specific)
Preparation and Storage	Store at -20 degree C. Avoid freeze/thaw cycles.
OMIM	114010
3D Structure	ModBase 3D Structure for P27708
Immunogen	Synthetic peptide of human CAD
Conjugation	Unconjugated
Product Categories/Family for anti-CAD antibody	Cancer; Cell Biology; Epigenetics and Nuclear Signaling; Metabolism
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for anti-CAD antibody	Immunohistochemistry (IHC), ELISA (EIA)
Application Notes for anti-CAD antibody	IHC: 1:40-1:200 ELISA: 1:5000-1:10000
Related Product Information for anti-CAD antibody	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.
Other Notes	Small volumes of anti-CAD antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for CAD purchase	MBS2559648 is an antibody targeting CAD. Also known as CAD Polyclonal Antibody. Reactive in Human, Mouse. Host: Rabbit.



Immunohistochemistry (IHC) of anti-CAD antibody
Immunohistochemistry of paraffin-embedded Human liver cancer tissue using CAD Polyclonal Antibody at dilution of 1:50(×200)



Immunohistochemistry (IHC) of anti-CAD antibody
Immunohistochemistry of paraffin-embedded Human esophagus cancer tissue using CAD Polyclonal Antibody at dilution of 1:50(×200)

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CAD. It may not necessarily be applicable to this product.

NCBI GI #	18105007
NCBI GeneID	790
NCBI Accession #	NP_004332.2
UniProt Primary Accession #	P27708
UniProt Related Accession #	P27708
GenBank Nucleotide #	NP_004332.2
NCBI Official Full Name	CAD protein isoform 1
NCBI Official Synonym Full Names	carbamoyl-phosphate synthetase 2, aspartate transcarbamylase, and dihydroorotase
NCBI Official Symbol	CAD
NCBI Official Synonym Symbols	CDG1Z; GATD4; EIEE50
UniProt Protein Name	CAD protein
Protein Family	CAD protein
UniProt Gene Name	CAD
UniProt Entry Name	PYR1_HUMAN
NCBI Protein Information	CAD protein

UniProt Comments for CAD	CAD: a multifunctional enzyme that catalyzes four enzymatic activities of the pyrimidine pathway, including the rate-limiting first step. The four enzymatic activities involved in de novo pyrimidine synthesis are glutamine amidotransferase, carbamoyl-phosphate synthetase, aspartate transcarbamoylase, and dihydroorotase activities. Provides essential precursors for DNA synthesis. Required for the de novo synthesis of pyrimidine nucleotides and cell growth. Phosphorylation by p70S6K promotes CAD oligomerization, stimulating de novo synthesis of pyrimidines and progression through S phase in mammalian cells. Utilizes glutamine, bicarbonate, and aspartic acid to form a pyrimidine ring that is subsequently attached to ribose to generate a pyrimidine. Protein type: EC 6.3.5.5; EC 2.1.3.2; Transferase; Ligase; Amino Acid Metabolism - alanine, aspartate and glutamate; EC 3.5.2.3; Hydrolase; Nucleotide Metabolism - pyrimidine Chromosomal Location of Human Ortholog: 2p22-p21 Cellular Component: nucleoplasm; cell projection; protein complex; nuclear matrix; membrane; cell soma; plasma membrane; terminal button; nucleus; cytosol Molecular Function: carbamoyl-phosphate synthase (ammonia) activity; identical protein binding; enzyme binding; zinc ion binding; carbamoyl-phosphate synthase (glutamine-hydrolyzing) activity; aspartate carbamoyltransferase activity; ATP binding; protein kinase activity; dihydroorotase activity Biological Process: lactation; organ regeneration; arginine biosynthetic process; nucleobase, nucleoside and nucleotide metabolic process; protein amino acid autophosphorylation; heart development; UTP biosynthetic process; peptidyl-threonine phosphorylation; glutamine metabolic process; response to testosterone stimulus; female pregnancy; liver development; response to caffeine; 'de novo' pyrimidine base biosynthetic process; response to cortisol stimulus; pyrimidine base metabolic process; pyrimidine nucleoside biosynthetic process; glutamine catabolic process; drug metabolic process; urea cycle; response to amine stimulus Disease: Congenital Disorder Of Glycosylation, Type Iz
Research Articles on CAD	**1.** structural evidences indicated that post-translational carbamylated Lys was not required for Znalpha binding in PaDHPase and in huDHOase.
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