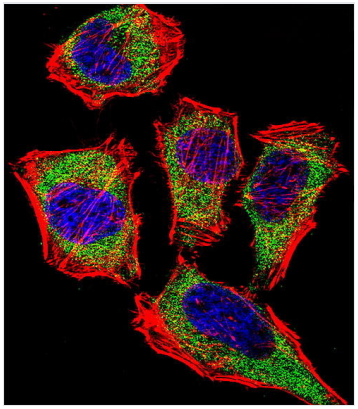
CA2 Antibody – Rabbit Polyclonal

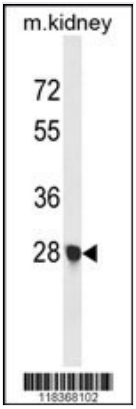
PRODUCT OVERVIEW

Product Name	CA2, Polyclonal Antibody
Full Product Name	CA2, NT (CA2, Carbonic anhydrase 2, Carbonate dehydratase II, Carbonic anhydrase C, Carbonic anhydrase II) (APC)
Product Gene Name	anti-CA2 antibody
Product Synonym Names	CA2; Carbonic anhydrase 2; Carbonate dehydratase II; Carbonic anhydrase C; Carbonic anhydrase II
Clonality	Polyclonal
Isotype	IgG
Host	Rabbit
Species Reactivity	Human, Mouse
Form/Format	Supplied as a liquid in PBS, pH 7.2. No preservative added. Labeled with Allophycocyanin (APC).
Purity/Purification	Purified by saturated ammonium sulfate precipitation followed by dialysis against PBS.
Preparation and Storage	Store product at 4 degree C in the dark. DO NOT FREEZE! Stable at 4 degree C for 12 months after receipt as an undiluted liquid. Dilute required amount only prior to immediate use. Further dilutions can be made in assay buffer. Caution: APC conjugates are sensitive to light. For maximum recovery of product, centrifuge the original vial prior to removing the cap.
Molecular Weight	260
OMIM	phenotype 611492
3D Structure	ModBase 3D Structure for P00918
Immunogen	CA2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 61~91 amino acids from the N-terminal region of human CA2.
Conjugate	APC
Note	Preservative Free
Product Categories/Family for anti-CA2 antibody	Antibodies; Enzymes
Applications Tested/Suitable for anti-CA2 antibody	Western Blot (WB), ELISA (EIA)
Application Notes for anti-CA2 antibody	WB: 50-100 ELISA: 1:1,000 Applications are based on unconjugated antibody.
Related Product Information for anti-CA2 antibody	CA2 is one of several (at least 7) isozymes of carbonic anhydrase. Carbonic anhydrase catalyzes reversible hydration of carbon dioxide. Defects in this enzyme are associated with osteopetrosis and renal tubular acidosis.
Product References and Citations for anti-CA2 antibody	Sultana, R., et al. Antioxid. Redox Signal. 12(3):327-336(2010). Fisher, S.Z., et al. Biochemistry 49(3):415-421(2010). Avvaru, B.S., et al. Biochemistry 49(2):249-251(2010). Maupin, C.M., et al. Biochemistry 48(33):7996-8005(2009). Avvaru, B.S., et al. Biochemistry 48(31):7365-7372(2009).
Other Notes	Small volumes of anti-CA2 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.

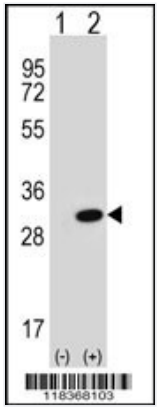
Searchable Terms for CA2 purchase	MBS6280211 is an antibody targeting CA2. Also known as CA2, NT (CA2, Carbonic anhydrase 2, Carbonate dehydratase II, Carbonic anhydrase C, Carbonic anhydrase II) (APC). Reactive in Human, Mouse. Host: Rabbit.



Immunofluorescence (IF) of anti-CA2 antibody
Fluorescent confocal image of Hela cell stained with CA2 Antibody (N-term).Hela cells were fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.1%, 10 min), then incubated with CA2 primary antibody (1:25, 1 h at 37 degree C). For secondary antibody, Alexa Fluor 488 conjugated donkey anti-rabbit antibody (green) was used (1:400, 50 min at 37 degree C).Cytoplasmic actin was counterstained with Alexa Fluor 555 (red) conjugated Phalloidin (7units/ml, 1 h at 37 degree C). Nuclei were counterstained with DAPI (blue) (10 ug/ml, 10 min). CA2 immunoreactivity is localized to Cytoplasm significantly.



Western Blot (WB) of anti-CA2 antibody
Western blot analysis of CA2 Antibody (N-term) in mouse kidney tissue lysates (35ug/lane). CA2 (arrow) was detected using the purified Pab.



Western Blot (WB) of anti-CA2 antibody
Western blot analysis of CA2 (arrow) using rabbit polyclonal CA2 Antibody (N-term). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the CA2 gene.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CA2. It may not necessarily be applicable to this product.

NCBI GI #	115456
NCBI GeneID	760
NCBI Accession #	P00918.2
UniProt Primary Accession #	P00918
UniProt Secondary Accession #	Q6FI12; Q96ET9; B2R7G8
UniProt Related Accession #	P00918
NCBI Official Full Name	Carbonic anhydrase 2
NCBI Official Synonym Full Names	carbonic anhydrase II
NCBI Official Symbol	CA2

NCBI Official Synonym Symbols	CAC; CAII; Car2; CA-II; HEL-76
UniProt Protein Name	Carbonic anhydrase 2
UniProt Synonym Protein Names	Carbonate dehydratase II; Carbonic anhydrase C; CAC; Carbonic anhydrase II; CA-II
Protein Family	Beta-carotene hydroxylase
UniProt Gene Name	CA2
UniProt Synonym Gene Names	CAC; CA-II
UniProt Entry Name	CAH2_HUMAN
NCBI Protein Information	carbonic anhydrase 2; carbonic anhydrase B; carbonic anhydrase C; carbonic dehydratase; carbonate dehydratase II; epididymis luminal protein 76
NCBI Summary for CA2	The protein encoded by this gene is one of several isozymes of carbonic anhydrase, which catalyzes reversible hydration of carbon dioxide. Defects in this enzyme are associated with osteopetrosis and renal tubular acidosis. Two transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jun 2014]
UniProt Comments for CA2	CA2: Essential for bone resorption and osteoclast differentiation. Reversible hydration of carbon dioxide. Can hydrates cyanamide to urea. Involved in the regulation of fluid secretion into the anterior chamber of the eye. Interacts with SLC4A4. Interaction with SLC4A7 regulates SLC4A7 transporter activity. Activated by X-ray, histamine, L-adrenaline, L- and D-phenylalanine, L- and D-histidine, L-His-OMe and beta-Ala- His (carnosine). Competitively inhibited by saccharin, thioxolone, coumarins, 667-coumate, celecoxib (Celebrex), valdecoxib (Bextra), SC-125, SC-560, diclofenac, acetate, azide, bromide, sulfonamide derivatives such as acetazolamide (AZA), methazolamide (MZA), ethoxzolamide (EZA), dichlorophenamide (DCP), brinzolamide, dansylamide, thiabendazole-5-sulfonamide, trifluoromethane sulfonamide and N-hydroxysulfamide, fructose-based sugar sulfamate RWJ-37497, and Foscarnet (phosphonoformate trisodium salt). Repressed strongly by hydrogen sulfide(HS) and weakly by nitrate (NO(3)). Esterase activity weakly reduced by cyanamide. N- hydroxyurea interfers with zinc binding and inhibit activity. Belongs to the alpha-carbonic anhydrase family. Protein type: Lyase; EC 4.2.1.1; Energy Metabolism - nitrogen Chromosomal Location of Human Ortholog: 8q22 Cellular Component: extracellular space; microvillus; apical part of cell; axon; basolateral plasma membrane; cytoplasm; plasma membrane; cytosol; myelin sheath Molecular Function: protein binding; carbonate dehydratase activity; zinc ion binding Biological Process: secretion; positive regulation of osteoclast differentiation; positive regulation of synaptic transmission, GABAergic; positive regulation of cellular pH reduction; one-carbon compound metabolic process; odontogenesis of dentine-containing teeth; response to zinc ion; bicarbonate transport; response to estrogen stimulus; regulation of intracellular pH; positive regulation of bone resorption; morphogenesis of an epithelium; kidney development; response to pH Disease: Osteopetrosis, Autosomal Recessive 3
Research Articles on CA2	**1.** Myocardial carbonic anhydrase 1/2 activation is significantly elevated in diabetic ischemic cardiomyopathy.
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Product Note	Select online data sheet information is drawn from bioinformatics databases, occasionally resulting in ambiguous or non-relevant product information. It is the responsibility of the customer to review, verify, and evaluate the information to make sure it matches their requirements before purchasing the kit. Our ELISA Kit assays are dynamic research tools and sometimes they may be updated and improved. If the format of this assay is important to you then please request the current manual or contact our technical support team with a presales inquiry before placing an order. We will confirm the current details of the assay. We cannot guarantee the sample manual posted online is the most current manual, it is intended to serve as an example only. Please refer to the instructions For Use provided with the assay kit for precise details.

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