10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

CA2 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7307a

Product Information

Application	IF, WB, E
Primary Accession	P00918
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	29246
Antigen Region	54-83

Additional Information

Gene ID	760
Other Names	Carbonic anhydrase 2, Carbonate dehydratase II, Carbonic anhydrase C, CAC, Carbonic anhydrase II, CA-II, CA2
Target/Specificity	This CA2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 54-83 amino acids from the N-terminal region of human CA2.
Dilution	IF~~1:10~50 WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	CA2 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CA2
Function	Catalyzes the reversible hydration of carbon dioxide (PubMed: 11327835, PubMed:11802772, PubMed:11831900, PubMed:12056894, PubMed:12171926, PubMed:1336460, PubMed:14736236, PubMed:15300855, PubMed:15453828, PubMed:15667203, PubMed:15865431,

PubMed:16106378, PubMed:16214338, PubMed:16290146, PubMed:16686544, PubMed:16759856, PubMed:16807956, PubMed:17127057, PubMed:17251017, PubMed:17314045, PubMed:17330962, PubMed:17346964, PubMed:17540563, PubMed:17588751, PubMed:17705204, PubMed:18024029, PubMed:18162396, PubMed:18266323, PubMed:18374572, PubMed:18481843, PubMed:18640037, PubMed:18942852, PubMed:1909891, PubMed:1910042, PubMed:19170619, PubMed:19186056, PubMed:19206230, PubMed:19520834, PubMed:19778001, PubMed:7761440, PubMed:7901850, PubMed:8218160, PubMed:8262987, PubMed:8399159, PubMed:8451242, PubMed:8485129, PubMed:8639494, PubMed:9265618, PubMed:9398308, PubMed:4994926). Can also hydrate cyanamide to urea (PubMed:10550681, PubMed:11015219). Stimulates the chloride-bicarbonate exchange activity of SLC26A6 (PubMed:15990874). Essential for bone resorption and osteoclast differentiation (PubMed:15300855). Involved in the regulation of fluid secretion into the anterior chamber of the eye. Contributes to intracellular pH regulation in the duodenal upper villous epithelium during proton-coupled peptide absorption.

Cellular Location

Cytoplasm. Cell membrane. Note=Colocalized with SLC26A6 at the surface of the cell membrane in order to form a bicarbonate transport metabolon. Displaced from the cytosolic surface of the cell membrane by PKC in phorbol myristate acetate (PMA)-induced cells

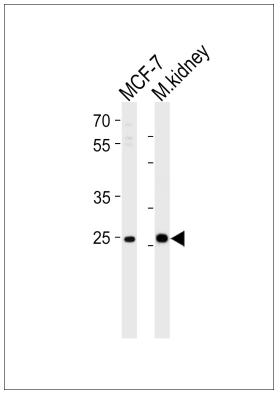
Background

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.

References

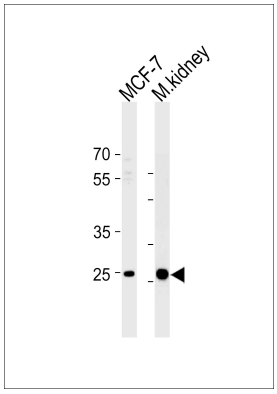
Sultana, R., et al. Antioxid. Redox Signal. 12(3):327-336(2010)
Fisher, S.Z., et al. Biochemistry 49(3):415-421(2010)
Avvaru, B.S., et al. Biochemistry 49(2):249-251(2010)
Maupin, C.M., et al. Biochemistry 48(33):7996-8005(2009)
Avvaru, B.S., et al. Biochemistry 48(31):7365-7372(2009)

Images

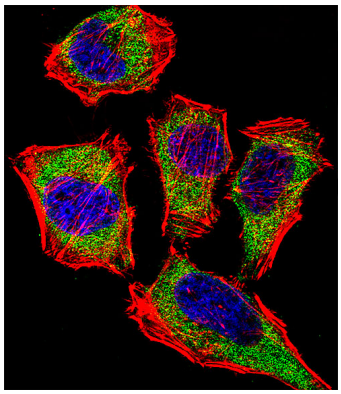


Western blot analysis of lysates from MCF-7 cell line and mouse kidney tissue lysate (from left to right), using CA2 Antibody (N-term) (Cat. #AP7307a). AP7307a was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysates at 35ug per lane.

CA2 Antibody (N-term) (Cat. #AP7307a) western blot analysis in MCF-7 cell line and mouse kidney tissue lysates (35ug/lane).This demonstrates the CA2 antibody



detected the CA2 protein (arrow).



Fluorescent confocal image of Hela cell stained with CA2 Antibody (N-term)(Cat#AP7307a).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℃). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-rabbit antibody (green) was used (1:400, 50 min at 37℃).Cytoplasmic actin was counterstained with Alexa Fluor® 555 (red) conjugated Phalloidin (7units/ml, 1 h at 37℃). Nuclei were counterstained with DAPI (blue) (10 μg/ml, 10 min). CA2 immunoreactivity is localized to Cytoplasm significantly.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.