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Anti-CA IV Picoband Antibody

Catalog # ABO10191

Product Information

Application	WB
Primary Accession	P22748
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Carbonic anhydrase 4(CA4) detection. Tested with WB in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	762
Other Names	Carbonic anhydrase 4, 4.2.1.1, Carbonate dehydratase IV, Carbonic anhydrase IV, CA-IV, CA4
Calculated MW	35032
Application Details	Western blot, 0.1-0.5 □g/ml, Mouse, Rat, Human
Subcellular Localization	Cell membrane; Lipid-anchor, GPI-anchor.
Tissue Specificity	Expressed in the endothelium of the choriocapillaris in eyes (at protein level). Not expressed in the retinal epithelium at detectable levels. .
Source	Eukaryota
Protein Name	Carbonic anhydrase 4
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	E.coli-derived human CA IV recombinant protein (Position: A19-S284). Human CA IV shares 55.5% and 58.9% amino acid (aa) sequence identity with mouse and rat CA IV, respectively.
Purification	Immunogen affinity purified.
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.

Protein Information

Name	CA4 (HGNC:1375)
Function	Catalyzes the reversible hydration of carbon dioxide into bicarbonate and protons and thus is essential to maintaining intracellular and extracellular pH (PubMed:15563508, PubMed:16686544, PubMed:16807956, PubMed:17127057, PubMed:17314045, PubMed:17652713, PubMed:17705204, PubMed:19186056, PubMed:19206230, PubMed:7625839, PubMed:9054574). May stimulate the sodium/bicarbonate transporter activity of SLC4A4 that acts in pH homeostasis (PubMed:15563508). It is essential for acid overload removal from the retina and retina epithelium, and acid release in the choriocapillaris in the choroid (PubMed:15563508).
Cellular Location	Cell membrane; Lipid-anchor, GPI-anchor
Tissue Location	Expressed in the endothelium of the choriocapillaris in eyes (at protein level). Not expressed in the retinal epithelium at detectable levels.

Background

Carbonic anhydrase 4 is an enzyme that in humans is encoded by the CA4 gene. Carbonic anhydrases (CAs) are a large family of zinc metalloenzymes that catalyze the reversible hydration of carbon dioxide. They participate in a variety of biological processes, including respiration, calcification, acid-base balance, bone resorption, and the formation of aqueous humor, cerebrospinal fluid, saliva, and gastric acid. They show extensive diversity in tissue distribution and in their subcellular localization. This gene encodes a glycosylphosphatidyl-inositol-anchored membrane isozyme expressed on the luminal surfaces of pulmonary (and certain other) capillaries and proximal renal tubules. Its exact function is not known; however, it may have a role in inherited renal abnormalities of bicarbonate transport.

Images

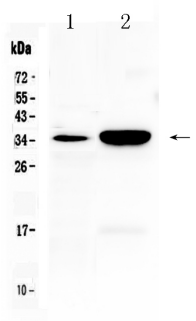


Figure 1. Western blot analysis of CA IV using anti- CA IV antibody (ABO10191). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: rat lung tissue lysates, Lane 2: mouse lung tissue lysates. After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti- CA IV antigen affinity purified polyclonal antibody (Catalog # ABO10191) at 0.5 □¼g/mL overnight at 4 □°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit with Tanon 5200 system. A specific band was detected for CA IV at approximately 35KD. The expected band size for CA IV is at 35KD.

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