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

Anti-CA IV Picoband Antibody
Catalog # ABO10191

Specification

Anti-CA IV Picoband Antibody - 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.

Anti-CA IV Picoband Antibody - 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 MW KDa

Application Details
Western blot, 0.1-0.5 µg/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. .

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.

Anti-CA IV Picoband Antibody - 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:17652713, PubMed:7625839, PubMed:16807956, PubMed:16686544, PubMed:17705204, PubMed:17127057, PubMed:17314045, PubMed:19186056, PubMed:19206230, PubMed:18618712). 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.

Anti-CA IV Picoband 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

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

Anti-CA IV Picoband Antibody - Images

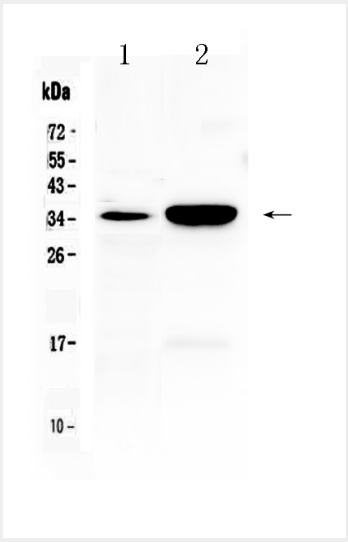

Figure 1. Western blot analysis of CA IV using anti- CA IV antibody (ABO10191). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: rat lung tissue 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 Î¼g/mL overnight at 4Â°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.

Anti-CA IV Picoband Antibody - 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.