

Basic Information

Product Name	Anti-CA1 Antibody	
Gene Name	CA1	
Source	Rabbit	
Clonality	Polyclonal	
Isotype	IgG	
Species Reactivity	human, mouse, rat	
Tested Application	WB, IHC, ICC/IF, FCM	
Contents	500 ug/ml antibody with PBS, 0.02% NaN ₃ , 1 mg/ml BSA and 50% glycerol.	
Immunogen	E.coli-derived human CA1 recombinant protein (Position: D9-F261). Human CA1 shares 78.5% and 81% amino acid (aa) sequence identity with mouse and rat CA1, respectively.	
Concentration	500 ug/ml	
Purification	Immunogen affinity purified.	
Observed MW	29 kDa	
Dilution Ratios	Western blot (WB): 1:500-2000 Immunohistochemistry (IHC): 1:50-400 Immunocytochemistry/Immunofluorescence (ICC/IF): 1:50-400 Flow Cytometry (Fixed): 1:50-200 (Boiling the paraffin sections in 10mM citrate buffer,pH6.0,or PH8.0 EDTA repair liquid for 20 mins is required for the staining of formalin/paraffin sections.) Optimal working dilutions must be determined by end user.	

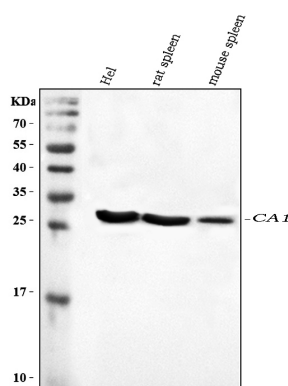
Storage

12 months from date of receipt, -20°C as supplied.

Background Information

Carbonic anhydrase 1 is an enzyme that in humans is encoded by the CA1 gene. It is a member of the Carbonic anhydrase. The CA1 gene is mapped to 8q22. CAI has got about 260 amino acids. This protein is highly expressed in erythrocytes. As catalysts of the reversible hydration of carbon dioxide, CAI participates in a variety of biologic processes like respiration, calcification, acid-base balance etc.

Selected Validation Data



Western blot analysis of CA1 using anti-CA1 antibody (PB0557). The sample well of each lane was loaded with 30 ug of sample under reducing conditions.

Lane 1: Hel whole cell lysates,

Lane 2: rat spleen tissue lysates,

Lane 3: mouse spleen tissue lysates.

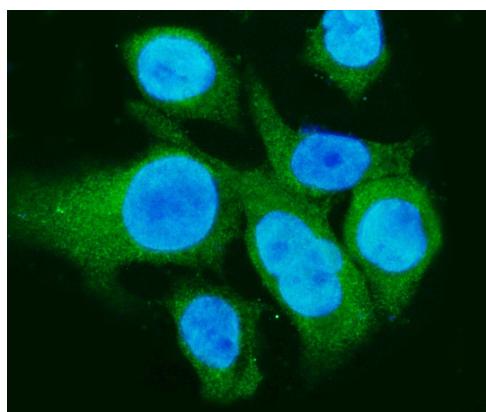
After electrophoresis, proteins were transferred to a membrane.

Then the membrane was incubated with rabbit anti-CA1 antigen affinity purified polyclonal antibody (PB0557) at a dilution of 1:1000 and probed with a goat anti-rabbit IgG-HRP secondary antibody (Catalog # BA1054). The signal is developed using ECL Plus Western Blotting Substrate (Catalog # AR1197). A specific band was detected for CA1 at approximately 29 kDa. The expected band size for CA1 is at 29 kDa.



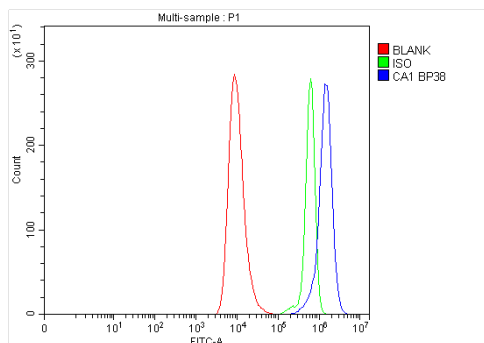
IHC analysis of CA1 using anti-CA1 antibody (PB0557).

CA1 was detected in a paraffin-embedded section of human adenocarcinoma of the colon cancer tissue. Biotinylated goat anti-rabbit IgG was used as secondary antibody. The tissue section was incubated with rabbit anti-CA1 Antibody (PB0557) at a dilution of 1:200 and developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB (Catalog # AR1027) as the chromogen.



ICC/IF analysis of CA1 using anti-CA1 antibody (PB0557).

CA1 was detected in an immunocytochemical section of Caco-2 cells. The section was incubated with rabbit anti-CA1 Antibody (PB0557) at a dilution of 1:100. Fluoro488 Conjugated Goat Anti-Rabbit IgG (Green) (Catalog # BA1127) was used as secondary antibody. The section was counterstained with DAPI (Catalog # AR1176) (Blue).



Flow Cytometry analysis of HEL cells using anti-CA1 antibody (PB0557).

Overlay histogram showing HEL cells stained with PB0557 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-CA1 Antibody (PB0557) at 1:100 dilution for 30 min at 20°C. Fluoro488 conjugated goat anti-rabbit IgG (BA1127) was used as secondary antibody at 1:100 dilution for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG at 1:100 dilution used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.