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antibody and ELISA experts

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Anti-CA2 Antibody Picoband™ (monoclonal, 10E11)

Catalog Number: M00143

About CA2

CA2 is a cytosolic enzyme with the highest activity among all known CAs. The carbonic anhydrases (ACs) form a family of enzymes that catalyze the rapid interconversion of carbon dioxide and water to bicarbonate and protons (or vice versa), a reversible reaction that occurs relatively slowly in the absence of a catalyst. Mutations in the CA2 gene result in the CA II deficiency syndrome, an autosomal recessive disorder that produces osteopetrosis, renal tubular acidosis and cerebral calcification. This gene is mapped to 8q22.

Overview

Product Name	Anti-CA2 Antibody Picoband™ (monoclonal, 10E11)
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-CA2 Antibody Picoband™ (monoclonal, 10E11) catalog # M00143. Tested in Flow Cytometry, IF, IHC, ICC, WB applications. This antibody reacts with Human, Mouse, Rat.
Application	Flow Cytometry, IF, IHC, ICC, WB
Clonality	Monoclonal 10E11
Formulation	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Storage Instructions	Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles.
Host	Mouse
Uniprot ID	P00918

Technical Details

Immunogen	E.coli-derived human CA2 recombinant protein (Position: S2-K260). Human CA2 shares 81.1% and 80.7% amino acid (aa) sequence identity with mouse and rat CA2, respectively.
Predicted Reactive Species	Hepatitis Virus
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Mouse IgG (EK1001) for Western blot, and HRP Conjugated anti-Mouse IgG Super Vision Assay Kit (SV0001-1) for IHC(P) and ICC.
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Mouse IgG2b
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.

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Purification	Immunogen affinity purified.
Suggested Dilutions	Dilute the sample so that the expected range of concentrations fall within the detection range of this kit. If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples. Some PubMed article(s) citing the expression level of this target are as follows: Boster Bio's internal QC testing used: Western blot, 0.1-0.5ug/ml Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml Immunocytochemistry/Immunofluorescence, 5ug/ml Flow Cytometry, 1-3ug/1x10^6 cells

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Anti-CA2 Antibody Picoband™ (monoclonal, 10E11) (M00143) Images

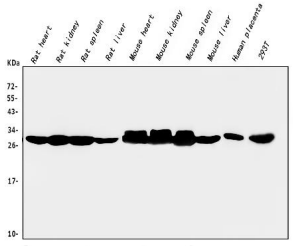

Figure 1. Western blot analysis of CA2 using anti-CA2 antibody (M00143).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.
Lane 1: rat heart tissue lysates,
Lane 2: rat kidney tissue lysates,
Lane 3: rat spleen tissue lysates,
Lane 4: rat liver tissue lysates,
Lane 5: mouse heart tissue lysates,
Lane 6: mouse kidney tissue lysates,
Lane 7: mouse spleen tissue lysates,
Lane 8: mouse liver tissue lysates,
Lane 9: human placenta tissue lysates,
Lane 10: human 293T whole cell 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 mouse anti-CA2 antigen affinity purified monoclonal antibody (Catalog # M00143) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse 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 (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for CA2 at approximately 28KD. The expected band size for CA2 is at 28KD.

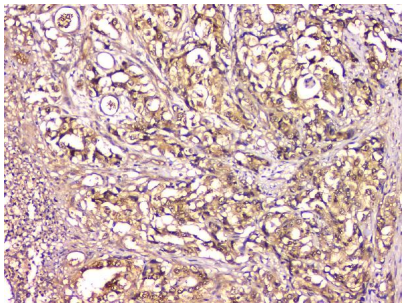

Figure 2. IHC analysis of CA2 using anti-CA2 antibody (M00143).
CA2 was detected in paraffin-embedded section of human gastric cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml mouse anti-CA2 Antibody (M00143) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

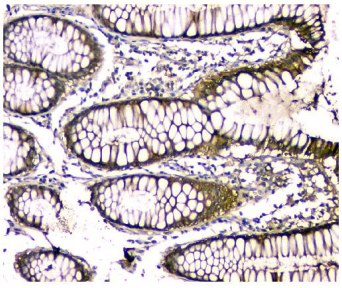

Figure 3. IHC analysis of CA2 using anti-CA2 antibody (M00143).
CA2 was detected in paraffin-embedded section of human colon cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml mouse anti-CA2 Antibody (M00143) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was

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developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

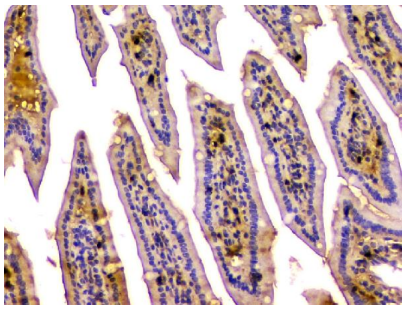

Figure 4. IHC analysis of CA2 using anti-CA2 antibody (M00143).
CA2 was detected in paraffin-embedded section of mouse intestine tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml mouse anti-CA2 Antibody (M00143) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

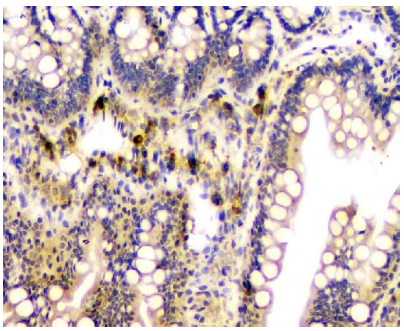

Figure 5. IHC analysis of CA2 using anti-CA2 antibody (M00143).
CA2 was detected in paraffin-embedded section of rat intestine tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml mouse anti-CA2 Antibody (M00143) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

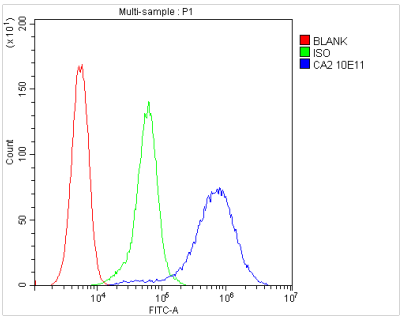

Figure 6. Flow Cytometry analysis of 293T cells using anti-CA2 antibody (M00143).
Overlay histogram showing 293T cells stained with M00143 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-CA2 Antibody (M00143, 1ug/1x10^6 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10ug/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1ug/1x10^6) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

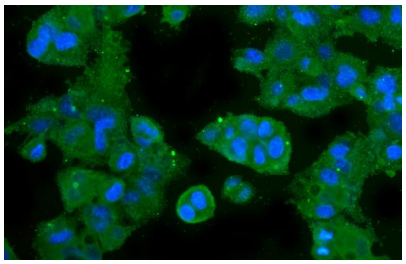

Figure 7. IF analysis of CA2 using anti-CA2 antibody (M00143).
CA2 was detected in immunocytochemical section of HEPG2 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5ug/mL mouse anti-CA2 Antibody (M00143) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Mouse IgG (BA1126) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

1 Publications Citing This Product

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1. PubMed ID: 22547769, Calcium-and integrin-binding protein-1 and calcineurin are upregulated in the right atrial myocardium of patients with atrial fibrillation

Visit bosterbio.com/anti-ca2-picoband-trade-antibody-monoclonal-m00143-boster.html to see all 1 publications.