

Anti-Calpain 2/CAPN2 Antibody Picoband®

Catalog Number: A03492

About CAPN2

Calpain-2 catalytic subunit is a protein that in humans is encoded by the CAPN2 gene. The calpains, calcium-activated neutral proteases, are nonlysosomal, intracellular cysteine proteases. The mammalian calpains include ubiquitous, stomach-specific, and muscle-specific proteins. The ubiquitous enzymes consist of heterodimers with distinct large, catalytic subunits associated with a common small, regulatory subunit. This gene encodes the large subunit of the ubiquitous enzyme, calpain 2. Multiple heterogeneous transcriptional start sites in the 5' UTR have been reported.

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Overview

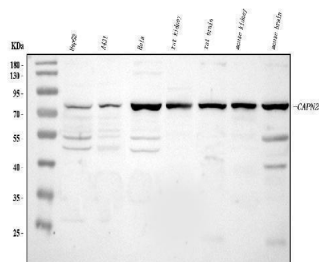
Product Name	Anti-Calpain 2/CAPN2 Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Calpain 2/CAPN2 Antibody Picoband® catalog # A03492. Tested in Flow Cytometry, IF, IHC, ICC, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	Flow Cytometry, IF, IHC, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg NaN ₃ .
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	Rabbit
Uniprot ID	P17655

Technical Details

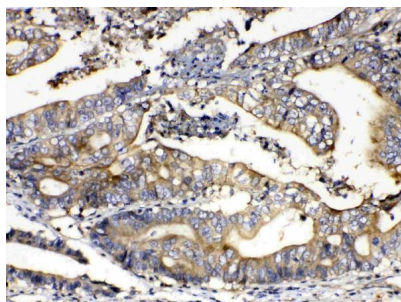
Immunogen	E. coli-derived human Calpain 2 recombinant protein (Position: R500-L700). Human Calpain 2 shares 93.5% and 92.5% amino acid (aa) sequence identity with mouse and rat Calpain 2, respectively.
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Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P) and ICC.
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Human, Rat Western blot, 0.1-0.5ug/ml, Human, Mouse, Rat, Immunocytochemistry/Immunofluorescence, 2ug/ml, Human Flow Cytometry (Fixed), 1-3ug/1x10⁶ cells, Human Note: For flow cytometry (FCM), validated for fixed cells only. Not validated for FACS or surface flow cytometry using live cells.

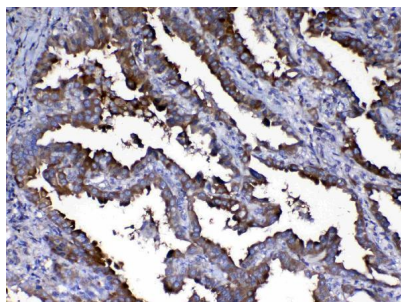
Anti-Calpain 2/CAPN2 Antibody Picoband® (A03492) Images



Western blot analysis of Calpain 2 using anti-Calpain 2 antibody (A03492). 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 30 ug of sample under reducing conditions. Lane 1: human HepG2 whole cell lysates, Lane 2: human A431 whole cell lysates, Lane 3: human Hela whole cell lysates, Lane 4: rat kidney tissue lysates, Lane 5: rat brain tissue lysates, Lane 6: mouse kidney tissue lysates, Lane 7: mouse brain tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA 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-Calpain 2 antigen affinity purified polyclonal antibody (Catalog # A03492) 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-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for Calpain 2 at approximately 80 kDa. The expected band size for Calpain 2 is at 80 kDa.

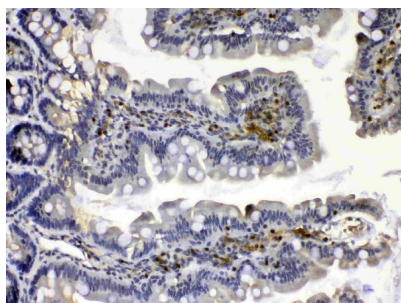


IHC analysis of Calpain 2 using anti-Calpain 2 antibody (A03492). Calpain 2 was detected in paraffin-embedded section of human intestinal cancer tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-Calpain 2 Antibody (A03492) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

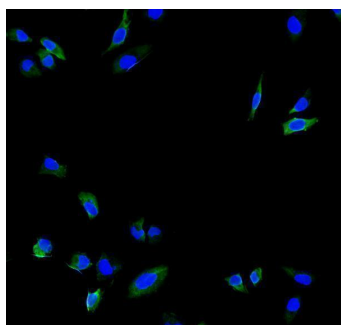


IHC analysis of Calpain 2 using anti-Calpain 2 antibody (A03492). Calpain 2 was detected in paraffin-embedded section of human lung cancer tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-Calpain 2 Antibody (A03492) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

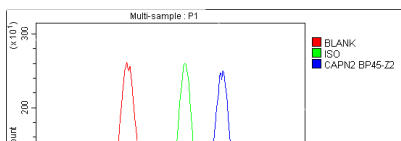
IHC analysis of Calpain 2 using anti-Calpain 2 antibody



(A03492). Calpain 2 was detected in paraffin-embedded section of rat small intestine tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-Calpain 2 Antibody (A03492) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.



IF analysis of Calpain 2 using anti-Calpain 2 antibody (A03492). Calpain 2 was detected in immunocytochemical section of HELA 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 2ug/mL rabbit anti-Calpain 2 Antibody (A03492) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Rabbit IgG (BA1127) 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.



Flow Cytometry analysis of U87 cells using anti-Calpain 2 antibody (A03492). Overlay histogram showing U87 cells stained with A03492 (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-Calpain 2 Antibody (A03492, 1ug/1x10⁶ cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10ug/1x10⁶ cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x10⁶) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

2 Publications Citing This Product

1. PubMed ID: 10.3389/fcell.2021.684857, Tunicamycin Induces Hepatic Stellate Cell Apoptosis Through Calpain-2/Ca²⁺-Dependent Endoplasmic Reticulum Stress Pathway
2. PubMed ID: 25415668, Chen Hx, Tang Sp, Gao Ft, Xu JI, Jiang Xp, Cao J, Fu Gb, Sun K, Liu Sz, Shi W. Medicine (Baltimore). 2014 Nov;93(23):E138. Doi: 10.1097/Md.0000000000000138. Fibrosis, Adipogenesis, And Muscle Atrophy In Congenital Muscular Torticollis.

Visit bosterbio.com/anti-calpain-2-picoband-trade-antibody-a03492-boster.html to see all 2 publications.

Anti-Calpain 2/CAPN2 Antibody

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