

Anti-Calpain 1/CAPN1 Antibody Picoband™

Catalog Number: PB9330

About CAPN1

CAPN1 is also known as CANP or muCL. 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 1. Several transcript variants encoding two different isoforms have been found for this gene.

Overview

Product Name	Anti-Calpain 1/CAPN1 Antibody Picoband™
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Calpain 1/CAPN1 Antibody Picoband™ catalog # PB9330. Tested in Flow Cytometry, IF, IHC, ICC, WB applications. This antibody reacts with Human, Mouse, Rat.
Application	Flow Cytometry, IF, IHC, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains 5mg BSA, 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	P07384

Technical Details

Immunogen	E.coli-derived human Calpain 1 recombinant protein (Position: Q396-A555). Human Calpain 1 shares 86% amino acid (aa) sequence identity with both mouse and rat Calpain 1.
Predicted Reactive Species	Bovine
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	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, Human, Mouse, Rat Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Human, By Heat Immunocytochemistry/Immunofluorescence, 2ug/ml, Human Flow Cytometry, 1-3ug/1x10⁶ cells, Human

Anti-Calpain 1/CAPN1 Antibody Picoband™ (PB9330) Images

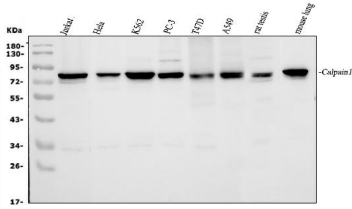


Figure 1. Western blot analysis of Calpain 1 using anti-Calpain 1 antibody (PB9330).

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 Jurkat whole cell lysates,
Lane 2: human Hela whole cell lysates,
Lane 3: human K562 whole cell lysates,
Lane 4: human PC-3 whole cell lysates,
Lane 5: human T47D whole cell lysates,
Lane 6: human A549 whole cell lysates,
Lane 7: rat testis tissue lysates,
Lane 8: mouse lung 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 1 antigen affinity purified polyclonal antibody (Catalog # PB9330) 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 1 at approximately 82 kDa. The expected band size for Calpain 1 is at 82 kDa.

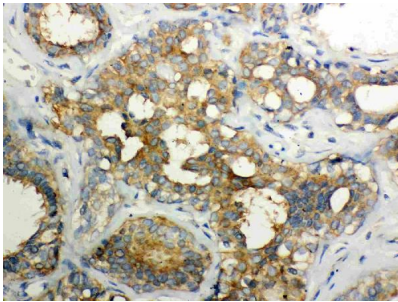


Figure 2. IHC analysis of Calpain 1 using anti-Calpain 1 antibody (PB9330).

Calpain 1 was detected in a paraffin-embedded section of Human Mammary Cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 ug/ml rabbit anti-Calpain 1 Antibody (PB9330) 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.

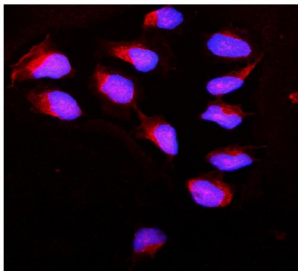


Figure 3. IF analysis of Calpain 1 using anti-Calpain 1 antibody (PB9330).

Calpain 1 was detected in immunocytochemical section of U2OS 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 1 Antibody (PB9330) overnight at 4°C. DyLight®594 Conjugated Goat Anti-Rabbit IgG (BA1142) 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.

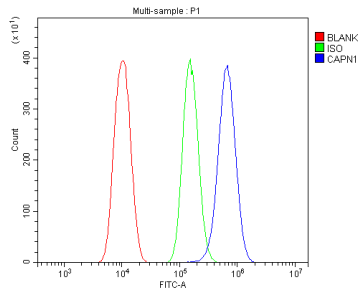


Figure 4. Flow Cytometry analysis of PC-3 cells using anti-Calpain 1 antibody (PB9330). Overlay histogram showing PC-3 cells stained with PB9330 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-Calpain 1 Antibody (PB9330, 1ug/1x10⁶ cells) for 30 min 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: 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.
2. PubMed ID: 21185840, Mo Xg, Chen Qw, Li Xs, Zheng Mm, Ke Dz, Deng W, Li Gq, Jiang J, Wu Zq, Wang L, Wang P, Yang Y, Cao Gy. Microvasc Res. 2011 Mar;81(2):160-8. Doi: 10.1016/J.Mvr.2010.12.004. Epub 2010 Dec 24. Suppression Of Nhe1 By Small Interfering Rna Inhibits Hif...

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