

## 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. 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 5mg BSA, 0.9mg NaCl, 0.2mg Na <sub>2</sub> HPO <sub>4</sub> , 0.05mg NaN <sub>3</sub> .
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.
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	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 (Fixed), 1-3ug/1x10 <sup>6</sup> cells, Human

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

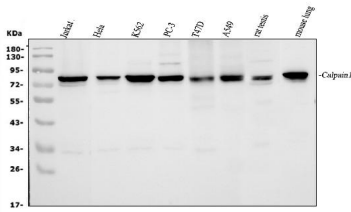


Figure 1. Western blot analysis of Calpain 1 using anti-Calpain 1 antibody (PB9330).

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.

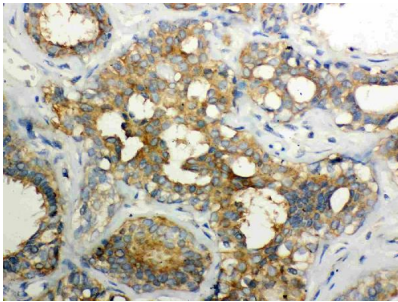


Figure 2. IHC analysis of Calpain 1 using anti-Calpain 1 antibody (PB9330).

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.

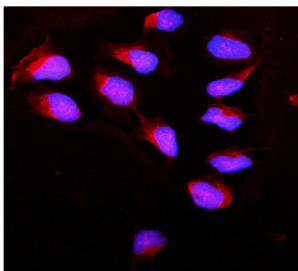


Figure 3. IF analysis of Calpain 1 using anti-Calpain 1 antibody (PB9330).

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.

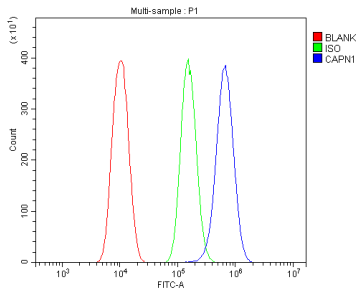


Figure 4. Flow Cytometry analysis of PC-3 cells using anti-Calpain 1 antibody (PB9330). Overlay histogram showing PC-3 cells stained with PB9330 (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-Calpain 1 Antibody (PB9330, 1 $\mu$ g/1x10<sup>6</sup> cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10 $\mu$ g/1x10<sup>6</sup> cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1 $\mu$ g/1x10<sup>6</sup>) 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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