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antibody and ELISA experts

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Anti-Calpain 1/CAPN1 Antibody Picoband®

Catalog Number: PA1364

About CAPN1

Calpain-1 catalytic subunit is a protein that in humans is encoded by the CAPN1 gene. Calpain is an intracellular protease that requires calcium for its catalytic activity. Two isozymes, calpain I (mu-calpain) and calpain II (m-calpain), with different calcium requirements, have been identified. Both are heterodimers composed of L (large, catalytic, 80 kD) and S (small, regulatory, 30 kD) subunits. The isozymes share an identical S subunit, with the differences arising from the L subunits, L1 (CAPN1) and L2. By quantitative RT-PCR, Ueyama et al. (1998) found that expression of calpain-1 and calpain-2 mRNA was significantly increased in muscle biopsy samples derived from 5 men with progressive muscular dystrophy (e.g., DMD; 310200) and 2 men and 3 women with amyotrophic lateral sclerosis (ALS; 105400) compared with controls. Using cDNA clones as probes, Ohno et al. (1989, 1990) assign CANPL1 to chromosome 11.

Overview

Product Name	Anti-Calpain 1/CAPN1 Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Calpain 1/CAPN1 Antibody catalog # PA1364. Tested in IF, IHC, IHC-F, 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	IF, IHC, IHC-F, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains antibody formulated with stabilizing components, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3. *This antibody is supplied in a stabilized formulation. Compatibility with conjugation reactions depends on the chemistry of the conjugation method used. For conjugation methods that are not compatible with the stabilizing components present in this formulation, a carrier-free antibody format is required.
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	A synthetic peptide corresponding to a sequence in the middle region of human Calpain 1, different from the mouse sequence by two amino acids.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western

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	blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P), IHC(F) 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, Rat Immunohistochemistry (Frozen Section), 0.5-1ug/ml, Rat, Human, Mouse Immunocytochemistry , 0.5-1ug/ml, Human, - Immunocytochemistry/Immunofluorescence, 5ug/ml, Human

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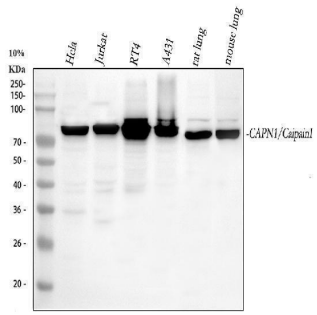
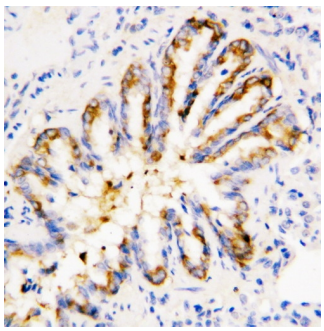
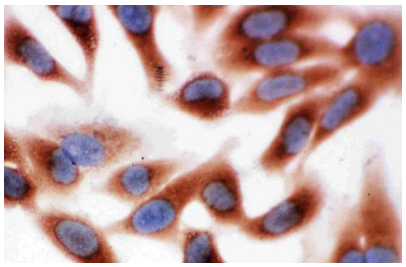
Anti-Calpain 1/CAPN1 Antibody Picoband® (PA1364) Images



Western blot analysis of CAPN1 using anti-CAPN1 antibody (PA1364). 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 Hela whole cell lysates, Lane 2: human Jurkat whole cell lysates, Lane 3: human RT4 whole cell lysates, Lane 4: human A431 whole cell lysates, Lane 5: rat lung tissue lysates, Lane 6: 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-CAPN1 antigen affinity purified polyclonal antibody (Catalog # PA1364) 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 CAPN1 at approximately 82 kDa. The expected band size for CAPN1 is at 82 kDa.



IHC analysis of Calpain 1 using anti-Calpain 1 antibody (PA1364). Calpain 1 was detected in paraffin-embedded section of rat lung tissues. 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 1 Antibody (PA1364) 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 Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.



IHC analysis of Calpain 1 using anti-Calpain 1 antibody (PA1364). Calpain 1 was detected in immunocytochemical section of HELA Cell. 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 1ug/ml rabbit anti-Calpain 1 Antibody (PA1364) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The section was developed using Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

IHC analysis of Calpain 1 using anti-Calpain 1 antibody (PA1364). Calpain 1 was detected in paraffin-embedded section of human intestinal cancer tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section

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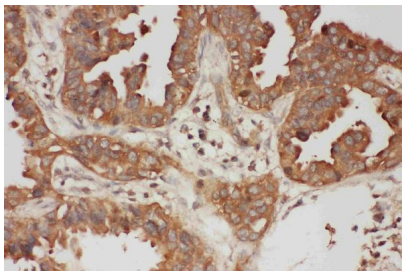
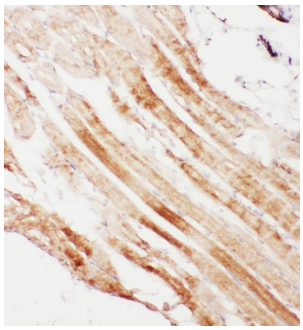
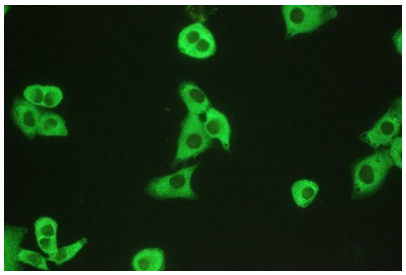


was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-Calpain 1 Antibody (PA1364) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.



IHC analysis of Calpain 1 using anti-Calpain 1 antibody (PA1364). Calpain 1 was detected in frozen section of rat cardiac muscle tissue. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-Calpain 1 Antibody (PA1364) 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 Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.



IF analysis of CAPN1 using anti- CAPN1 antibody (PA1364). CAPN1 was detected in immunocytochemical section of A549 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 rabbit anti- CAPN1 Antibody (PA1364) 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.

2 Publications Citing This Product

1. PubMed ID: 25415668, Chen Hx, Tang Sp, Gao Ft, Xu Jl, 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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