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Anti-Calpain 1 Antibody Picoband™ (monoclonal, 2I10)

Catalog # ABO15062

Specification

Anti-Calpain 1 Antibody Picoband™ (monoclonal, 2I10) - Product Information

Application	**WB, IF, ICC, FC**
Primary Accession	P07384
Host	**Mouse**
Isotype	**Mouse IgG2a**
Reactivity	**Human**
Clonality	**Monoclonal**
Format	**Lyophilized**

Description
Anti-Calpain 1 Antibody Picoband™ (monoclonal, 2I10) . Tested in Flow Cytometry, IF, ICC, WB applications. This antibody reacts with Human.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-Calpain 1 Antibody Picoband™ (monoclonal, 2I10) - Additional Information

Gene ID 823

Other Names
Calpain-1 catalytic subunit, 3.4.22.52, Calcium-activated neutral proteinase 1, CANP 1, Calpain mu-type, Calpain-1 large subunit, Cell proliferation-inducing gene 30 protein {ECO:0000303|Ref.3}, Micromolar-calpain, muCANP, CAPN1 (HGNC:1476), CANPL1

Calculated MW
82 kDa KDa

Application Details
Western blot, 0.25-0.5 µg/ml, Human
 Immunocytochemistry/Immunofluorescence, 5 µg/ml, Human
 Flow Cytometry, 1-3 µg/1x10^6 cells, Human

Contents
Each vial contains 4mg Trehalose, 0.9mg NaCl and 0.2mg Na2HPO4.

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.

Purification
Immunogen affinity purified.

Storage	**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.

Anti-Calpain 1 Antibody Picoband™ (monoclonal, 2I10) - Protein Information

Name CAPN1 (HGNC:1476)

Synonyms CANPL1

Function
Calcium-regulated non-lysosomal thiol-protease which catalyzes limited proteolysis of substrates involved in cytoskeletal remodeling and signal transduction (PubMed:19617626, PubMed:21531719, PubMed:2400579). Proteolytically cleaves CTBP1 at 'Asn-375', 'Gly-387' and 'His-409' (PubMed:23707407). Cleaves and activates caspase-7 (CASP7) (PubMed:19617626).

Cellular Location
Cytoplasm. Cell membrane. Note=Translocates to the plasma membrane upon Ca(2+) binding. In granular keratinocytes and in lower corneocytes, colocalizes with FLG and FLG2 (PubMed:21531719)

Tissue Location
Ubiquitous.

Anti-Calpain 1 Antibody Picoband™ (monoclonal, 2I10) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-Calpain 1 Antibody Picoband™ (monoclonal, 2I10) - Images

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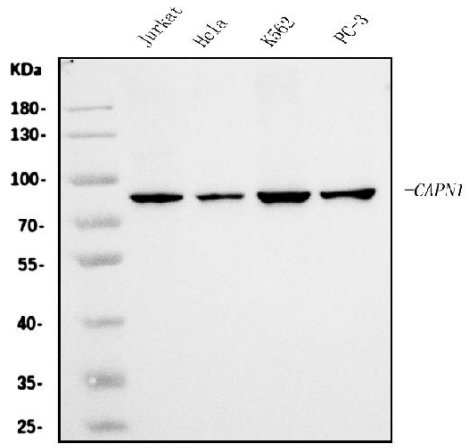

Figure 1. Western blot analysis of Calpain 1 using anti-Calpain 1 antibody (M01943-3).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30ug of sample under reducing conditions.
Lane 1: human 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.
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-Calpain 1 antigen affinity purified monoclonal antibody (Catalog # M01943-3) at 0.5 µg/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 Calpain 1 at approximately 82KD. The expected band size for Calpain 1 is at 82KD.

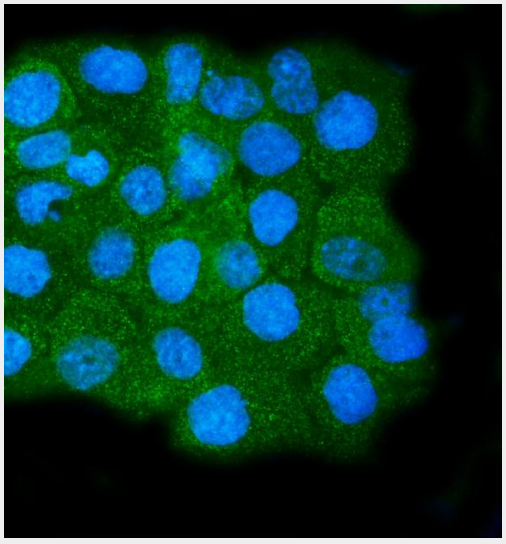

Figure 2. IF analysis of Calpain 1 using anti-Calpain 1 antibody (M01943-3).
Calpain 1 was detected in immunocytochemical section of A431 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 µg/mL mouse anti-Calpain 1 Antibody (M01943-3) 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

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counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

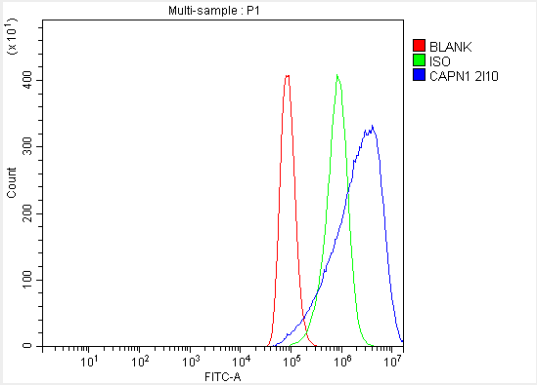

Figure 3. Flow Cytometry analysis of A549 cells using anti-Calpain 1 antibody (M01943-3). Overlay histogram showing A549 cells stained with M01943-3 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-Calpain 1 Antibody (M01943-3, 1 µg/1x10^6 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10^6) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

Anti-Calpain 1 Antibody Picoband™ (monoclonal, 2I10) - Background

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.