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# Anti-Caspase-3/CASP3 Antibody Picoband™

**Catalog Number:** PB9188

## About CASP3

Caspase 3 is a caspase protein which interacts with Survivin, XIAP, CFLAR, Caspase 8, HCLS1, Deleted in Colorectal Cancer, TRAF3 and GroEL. This gene which is located on 4q35 encodes a protein that is a member of the cysteine-aspartic acid protease (caspase) family. Sequential activation of caspases plays a central role in the execution-phase of cell apoptosis. Caspases exist as inactive proenzymes that undergo proteolytic processing at conserved aspartic residues to produce two subunits, large and small, that dimerize to form the active enzyme. It is the predominant caspase involved in the cleavage of amyloid-beta 4A precursor protein, which is associated with neuronal death in Alzheimer's disease. And the caspase-3 activation in heart failure sequentially cleaves SRF and generates a truncated SRF that appears to function as a dominant-negative transcription factor. Additionally, the caspase-3 influence on bone mineral density should be considered in any in vivo application of caspase-3 inhibitors to the treatment of human disease. In erythroid precursors undergoing terminal differentiation, Hsp70 prevents active CASP3 from cleaving GATA1 and inducing apoptosis.

## Overview

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| Product Name | Anti-Caspase-3/CASP3 Antibody Picoband™ |
| Reactive Species | Human, Mouse, Rat |
| Description | Boster Bio Anti-Caspase-3/CASP3 Antibody Picoband™ catalog # PB9188. 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 Na2HPO4, 0.05mg NaN3. |
| 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 | P42574 |

## Technical Details

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| Immunogen | E.coli-derived human Caspase 3 recombinant protein (Position: T67-D175). Human Caspase 3 shares 86% and 90% amino acid (aa) sequences identity with mouse and rat Caspase 3, respectively. |
| Predicted Reactive Species | Hamster |
| 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 |

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|---|---|
| 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.<br>If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples.<br>Some PubMed article(s) citing the expression level of this target are as follows:<br>Boster Bio's internal QC testing used:<br>Western blot, 0.1-0.5ug/ml, Human, Mouse, Rat<br>Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Human, Mouse, Rat, By Heat<br>Immunocytochemistry/Immunofluorescence, 2ug/ml, Human<br>Flow Cytometry, 1-3ug/1x$10^6$ cells, Human |

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# Anti-Caspase-3/CASP3 Antibody Picoband™ (PB9188) Images

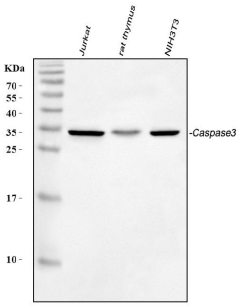


Figure 1. Western blot analysis of Caspase3 using anti-Caspase3 antibody (PB9188).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: human Jurkat whole cell lysates,
Lane 2: rat thymus tissue lysates,
Lane 3: mouse NIH/3T3 whole cell 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-Caspase3 antigen affinity purified polyclonal antibody (Catalog # PB9188) 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 Caspase3 at approximately 32 kDa. The expected band size for Caspase3 is at 32 kDa.

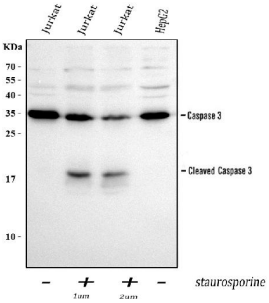


Figure 2. Western blot analysis of Caspase3 using anti-Caspase3 antibody (PB9188).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: human Jurkat whole cell lysates,
Lane 2: human Jurkat whole cell lysates,
Lane 3: human Jurkat whole cell lysates,
Lane 4: human HepG2 whole cell 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-Caspase3 antigen affinity purified polyclonal antibody (Catalog # PB9188) 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 Caspase3 at approximately 32 kDa. The expected band size for Caspase3 is at 32 kDa.

Figure 3. IHC analysis of Caspase3 using anti-Caspase3 antibody (PB9188).
Caspase3 was detected in paraffin-embedded section of rat intestine tissue. Heat mediated antigen retrieval was

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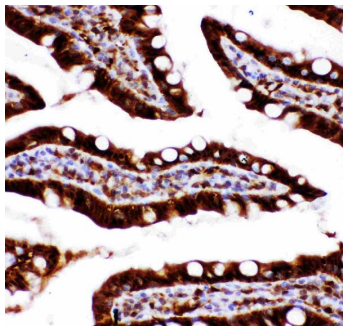

performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-Caspase3 Antibody (PB9188) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

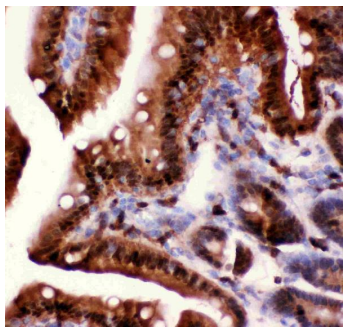

Figure 4. IHC analysis of Caspase3 using anti-Caspase3 antibody (PB9188).
Caspase3 was detected in paraffin-embedded section of human lung cancer tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-Caspase3 Antibody (PB9188) 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.

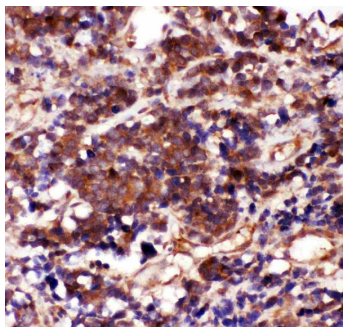

Figure 5. IHC analysis of Caspase3 using anti-Caspase3 antibody (PB9188).
Caspase3 was detected in paraffin-embedded section of mouse intestine tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-Caspase3 Antibody (PB9188) 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.

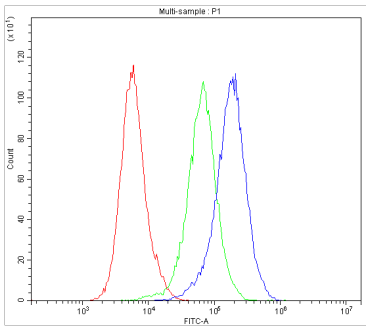


Figure 6. Flow Cytometry analysis of K562 cells using anti-CASP3 antibody (PB9188).
Overlay histogram showing K562 cells stained with PB9188 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-CASP3 Antibody (PB9188,1ug/1x$10^6$ cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10ug/1x$10^6$ cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x$10^6$) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

Figure 7. Flow Cytometry analysis of K562 cells using anti-CASP3 antibody (PB9188).
Overlay histogram showing K562 cells stained with PB9188 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-CASP3 Antibody (PB9188,1ug/1x$10^6$ cells) for 30 min at 20°C. DyLight®488

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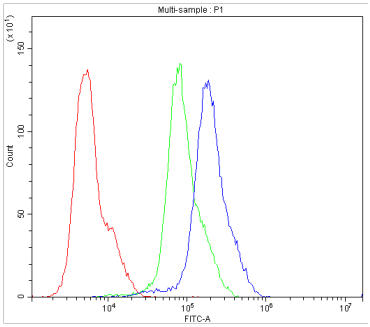


conjugated goat anti-rabbit IgG (BA1127, 5-10ug/1x$10^6$ cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x$10^6$) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

## 148 Publications Citing This Product

1. PubMed ID: 10.3892/mmr.2017.6160, Inhibitory effects of vitamin E on osteocyte apoptosis and DNA oxidative damage in bone marrow hemopoietic cells at early stage of steroid-induced femoral head necrosis

2. PubMed ID: PMID:26064215, Effects of PDTC on NF-kappaB expression and apoptosis in rats with severe acute pancreatitis-associated lung injury

3. PubMed ID: 10.2147/DDDT.S265198, Integrated Network Pharmacology Analysis and Experimental Validation to Reveal the Mechanism of Anti-Insulin Resistance Effects of Moringa oleifera Seeds

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