BOSTER BIOLOGICAL TECHNOLOGY
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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.

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Overview

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 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	IF, IHC, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.01mg 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

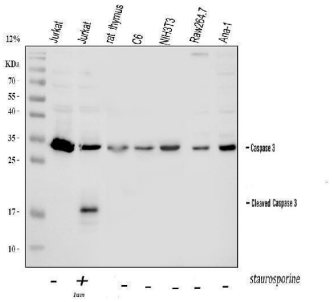
Technical Details

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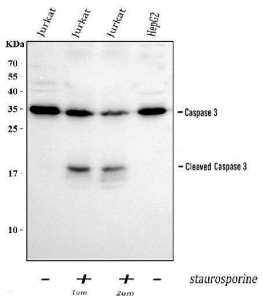
Immunogen	E.coli-derived human Caspase 3 recombinant protein (Position: T67-D175). Human Caspase 3 shares 86% and 90% amino acid (aa) sequences identity with mouse and rat Caspase 3, respectively.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) 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), 2-5ug/ml, Human Immunocytochemistry/Immunofluorescence, 5ug/ml, Human

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



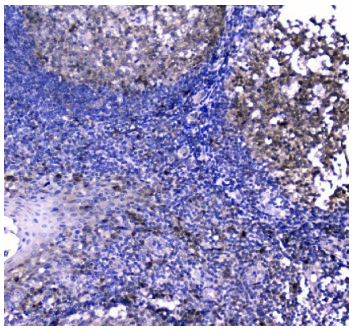
Western blot analysis of Caspase-3 using anti-Caspase-3 antibody (PB9188). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: human Jurkat whole cell lysates, Lane 2: human Jurkat whole cell lysates, Lane 3: rat thymus tissue lysates, Lane 4: rat C6 whole cell lysates, Lane 5: mouse NIH/3T3 whole cell lysates, Lane 6: mouse RAW264.7 whole cell lysates, Lane 7: mouse ANA-1 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-Caspase-3 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 Caspase-3 at approximately 35 kDa, 17 kDa (Cleaved). The expected band size for Caspase-3 is at 32 kDa.



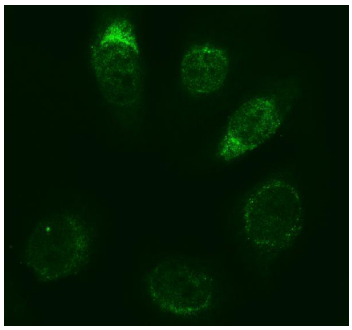
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IHC analysis of Caspase-3 using anti-Caspase-3 antibody (PB9188). Caspase-3 was detected in a paraffin-embedded section of human tonsil tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-Caspase-3 Antibody (PB9188) overnight at

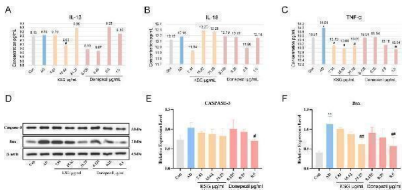
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4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



IF analysis of Caspase-3 using anti-Caspase-3 antibody (PB9188). Caspase-3 was detected in an immunocytochemical section of U20S 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 ug/mL rabbit anti-Caspase-3 Antibody (PB9188) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Rabbit IgG (BA1127) was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37°C. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Regulatory effects of KSG on the expression of cytokines and apoptosis-related factors in Abeta-induced PC12 cells. (A) Expression of IL-1beta (n = 3). (B) Expression of IL-18 (n = 3). (C) Expression of TNF-alpha (n = 3). (D) Protein expression of apoptosis-related factors in PC12 cells of each group (n = 3). (E) Expression of Caspase-3 (n = 3). (F) Expression of Bax (n = 3). Data were expressed as mean ± SD. * P < 0.05, ** P < 0.01, and *** P < 0.001 vs. Con. # P < 0.05, ## P < 0.01, and ### P < 0.001 vs. AD.Source: Wei Liu et al. Licensed under CC BY 4.0. PMID: 41050397

160 Publications Citing This Product

1. 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

2. 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

3. PubMed ID: 10.3969/j.issn.1673-5374.2013.23.009, Antenatal taurine reduces cerebral cell apoptosis in fetal rats with intrauterine growth restriction

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