

**Caspase-7 Antibody (Clone B4-G2)**  
**Mouse Monoclonal Antibody**  
**Catalog # ABV10005****Specification**

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**Caspase-7 Antibody (Clone B4-G2) - Product Information**

Application	WB, IP
Primary Accession	<a href="#">P55210</a>
Other Accession	<a href="#">BAG61059</a>
Reactivity	Human, Mouse, Rat
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse IgG1
Calculated MW	34277

**Caspase-7 Antibody (Clone B4-G2) - Additional Information****Gene ID** 840

Application & Usage	Western blot analysis (0.5-2 µg/ml) and immunoprecipitation (4-10 µg/ml). However the optimal conditions should be determined individually. Detects both pro-caspase-7 (34 kDa) and the large subunit of cleaved caspase-7 (19 kDa) in apoptosis cells on SDS-PAGE immunoblots.
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**Other Names**

CASP7, CASP-7, ICE-LAP3, CMH-1, MCH3, EC 3.4.22.60

**Target/Specificity**

Caspase-7

**Antibody Form**

Liquid

**Appearance**

Colorless liquid

**Formulation**

100 µg (0.5 µg/ml) in PBS containing 1 mg/ml BSA and 1.5 mM thimerosal and 50% glycerol

**Handling**

The antibody solution should be gently mixed before use.

**Reconstitution & Storage**

-20 °C

**Background Descriptions**

## Precautions

Caspase-7 Antibody (Clone B4-G2) is for research use only and not for use in diagnostic or therapeutic procedures.

## Caspase-7 Antibody (Clone B4-G2) - Protein Information

**Name** CASP7 {ECO:0000303|PubMed:9070923, ECO:0000312|HGNC:HGNC:1508}

### Function

Thiol protease involved in different programmed cell death processes, such as apoptosis, pyroptosis or granzyme-mediated programmed cell death, by proteolytically cleaving target proteins (PubMed:<a href="http://www.uniprot.org/citations/8521391" target="\_blank">8521391</a>, PubMed:<a href="http://www.uniprot.org/citations/8567622" target="\_blank">8567622</a>, PubMed:<a href="http://www.uniprot.org/citations/8576161" target="\_blank">8576161</a>, PubMed:<a href="http://www.uniprot.org/citations/9070923" target="\_blank">9070923</a>, PubMed:<a href="http://www.uniprot.org/citations/16916640" target="\_blank">16916640</a>, PubMed:<a href="http://www.uniprot.org/citations/17646170" target="\_blank">17646170</a>, PubMed:<a href="http://www.uniprot.org/citations/18723680" target="\_blank">18723680</a>, PubMed:<a href="http://www.uniprot.org/citations/19581639" target="\_blank">19581639</a>, PubMed:<a href="http://www.uniprot.org/citations/11257230" target="\_blank">11257230</a>, PubMed:<a href="http://www.uniprot.org/citations/11257231" target="\_blank">11257231</a>, PubMed:<a href="http://www.uniprot.org/citations/11701129" target="\_blank">11701129</a>, PubMed:<a href="http://www.uniprot.org/citations/15314233" target="\_blank">15314233</a>). Has a marked preference for Asp-Glu-Val-Asp (DEVD) consensus sequences, with some plasticity for alternate non-canonical sequences (PubMed:<a href="http://www.uniprot.org/citations/12824163" target="\_blank">12824163</a>, PubMed:<a href="http://www.uniprot.org/citations/19581639" target="\_blank">19581639</a>, PubMed:<a href="http://www.uniprot.org/citations/20566630" target="\_blank">20566630</a>, PubMed:<a href="http://www.uniprot.org/citations/15314233" target="\_blank">15314233</a>, PubMed:<a href="http://www.uniprot.org/citations/17697120" target="\_blank">17697120</a>, PubMed:<a href="http://www.uniprot.org/citations/23897474" target="\_blank">23897474</a>, PubMed:<a href="http://www.uniprot.org/citations/23650375" target="\_blank">23650375</a>, PubMed:<a href="http://www.uniprot.org/citations/27032039" target="\_blank">27032039</a>). Its involvement in the different programmed cell death processes is probably determined by upstream proteases that activate CASP7 (By similarity). Acts as an effector caspase involved in the execution phase of apoptosis: following cleavage and activation by initiator caspases (CASP8, CASP9 and/or CASP10), mediates execution of apoptosis by catalyzing cleavage of proteins, such as CLSPN, PARP1, PTGES3 and YY1 (PubMed:<a href="http://www.uniprot.org/citations/10497198" target="\_blank">10497198</a>, PubMed:<a href="http://www.uniprot.org/citations/16123041" target="\_blank">16123041</a>, PubMed:<a href="http://www.uniprot.org/citations/16374543" target="\_blank">16374543</a>, PubMed:<a href="http://www.uniprot.org/citations/16916640" target="\_blank">16916640</a>, PubMed:<a href="http://www.uniprot.org/citations/18723680" target="\_blank">18723680</a>, PubMed:<a href="http://www.uniprot.org/citations/20566630" target="\_blank">20566630</a>, PubMed:<a href="http://www.uniprot.org/citations/21555521" target="\_blank">21555521</a>, PubMed:<a href="http://www.uniprot.org/citations/22184066" target="\_blank">22184066</a>, PubMed:<a href="http://www.uniprot.org/citations/22451931" target="\_blank">22451931</a>, PubMed:<a href="http://www.uniprot.org/citations/28863261" target="\_blank">28863261</a>, PubMed:<a href="http://www.uniprot.org/citations/31586028" target="\_blank">31586028</a>, PubMed:<a href="http://www.uniprot.org/citations/34156061" target="\_blank">34156061</a>, PubMed:<a href="http://www.uniprot.org/citations/27889207" target="\_blank">27889207</a>, PubMed:<a href="http://www.uniprot.org/citations/35338844" target="\_blank">35338844</a>, PubMed:<a href="http://www.uniprot.org/citations/35446120" target="\_blank">35446120</a>). Compared to CASP3, acts as a minor executioner caspase and cleaves a limited set of target proteins (PubMed:<a href="http://www.uniprot.org/citations/18723680" target="\_blank">18723680</a>). Acts as a key

regulator of the inflammatory response in response to bacterial infection by catalyzing cleavage and activation of the sphingomyelin phosphodiesterase SMPD1 in the extracellular milieu, thereby promoting membrane repair (PubMed:<a href="http://www.uniprot.org/citations/21157428" target="\_blank">21157428</a>). Regulates pyroptosis in intestinal epithelial cells: cleaved and activated by CASP1 in response to S.typhimurium infection, promoting its secretion to the extracellular milieu, where it catalyzes activation of SMPD1, generating ceramides that repair membranes and counteract the action of gasdermin-D (GSDMD) pores (By similarity). Regulates granzyme-mediated programmed cell death in hepatocytes: cleaved and activated by granzyme B (GZMB) in response to bacterial infection, promoting its secretion to the extracellular milieu, where it catalyzes activation of SMPD1, generating ceramides that repair membranes and counteract the action of perforin (PRF1) pores (By similarity). Following cleavage by CASP1 in response to inflammasome activation, catalyzes processing and inactivation of PARP1, alleviating the transcription repressor activity of PARP1 (PubMed:<a href="http://www.uniprot.org/citations/22464733" target="\_blank">22464733</a>). Acts as an inhibitor of type I interferon production during virus-induced apoptosis by mediating cleavage of antiviral proteins CGAS, IRF3 and MAVS, thereby preventing cytokine overproduction (By similarity). Cleaves and activates sterol regulatory element binding proteins (SREBPs) (PubMed:<a href="http://www.uniprot.org/citations/8643593" target="\_blank">8643593</a>). Cleaves phospholipid scramblase proteins XKR4, XKR8 and XKR9 (By similarity). In case of infection, catalyzes cleavage of Kaposi sarcoma-associated herpesvirus protein ORF57, thereby preventing expression of viral lytic genes (PubMed:<a href="http://www.uniprot.org/citations/20159985" target="\_blank">20159985</a>).

#### **Cellular Location**

Cytoplasm, cytosol. Nucleus. Secreted, extracellular space {ECO:0000250|UniProtKB:P97864}.

Note=Following cleavage and activation by CASP1 or granzyme B (GZMB), secreted into the extracellular milieu by passing through the gasdermin-D (GSDMD) pores or perforin (PRF1) pore, respectively {ECO:0000250|UniProtKB:P97864}

#### **Tissue Location**

Highly expressed in lung, skeletal muscle, liver, kidney, spleen and heart, and moderately in testis. No expression in the brain.

### **Caspase-7 Antibody (Clone B4-G2) - Protocols**

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### **Caspase-7 Antibody (Clone B4-G2) - Images**

### **Caspase-7 Antibody (Clone B4-G2) - Background**

The caspase family of cysteine proteases plays a key role in apoptosis. Caspase-7, also known as Mch3α, ICE/LAP3 and CMH1, is a 34 kDa protein that is activated during Fas- and TNF-induced apoptosis. Caspase-7 has been identified as a major contributor to the execution phase of cellular apoptosis. It cleaves essential cellular machinery following its own cleavage from an inactive proenzyme to an active heterodimeric form. Caspase-7 is processed by caspase-3, -6, -8, -9, and -10 as well as by Granzyme B.