

**Caspase-3 Antibody (Clone C33)**  
**Mouse Monoclonal Antibody**  
**Catalog # ABV10002****Specification**

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**Caspase-3 Antibody (Clone C33) - Product Information**

Application	WB
Primary Accession	<a href="#">P42574</a>
Reactivity	Human, Mouse, Rat
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse IgG1
Calculated MW	31608

**Caspase-3 Antibody (Clone C33) - Additional Information****Gene ID** 836**Application & Usage**

**Western blotting (0.5-4 µg/ml).** The antibody recognizes both proform and the cleaved large fragment of caspase-3 in samples of human, mouse and rat origins. However, the optimal conditions should be determined individually.

**Other Names**

CPP32 , CASP3, apopain, procaspase3, CPP32B, SCA-1, CPP-32, Apopain, Yama

**Target/Specificity**

Caspase-3

**Antibody Form**

Liquid

**Appearance**

Colorless liquid

**Formulation**

100 µg (200 µg/ml) in PBS containing 50% glycerol, 0.5 mg/ml BSA and 0.01% thimerosal.

**Handling**

The antibody solution should be gently mixed before use.

**Reconstitution & Storage**

-20 °C

**Background Descriptions****Precautions**

Caspase-3 Antibody (Clone C33) is for research use only and not for use in diagnostic or

therapeutic procedures.

## Caspase-3 Antibody (Clone C33) - Protein Information

**Name** CASP3

**Synonyms** CPP32 {ECO:0000303|PubMed:7983002}

### Function

Thiol protease that acts as a major effector caspase involved in the execution phase of apoptosis (PubMed:<a href="http://www.uniprot.org/citations/7596430" target="\_blank">7596430</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/23650375" target="\_blank">23650375</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>). Following cleavage and activation by initiator caspases (CASP8, CASP9 and/or CASP10), mediates execution of apoptosis by catalyzing cleavage of many proteins (PubMed:<a href="http://www.uniprot.org/citations/7596430" target="\_blank">7596430</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/23650375" target="\_blank">23650375</a>). At the onset of apoptosis, it proteolytically cleaves poly(ADP-ribose) polymerase PARP1 at a '216-Asp-|-Gly-217' bond (PubMed:<a href="http://www.uniprot.org/citations/7774019" target="\_blank">7774019</a>, PubMed:<a href="http://www.uniprot.org/citations/7596430" target="\_blank">7596430</a>, PubMed:<a href="http://www.uniprot.org/citations/10497198" target="\_blank">10497198</a>, PubMed:<a href="http://www.uniprot.org/citations/16374543" target="\_blank">16374543</a>). Cleaves and activates sterol regulatory element binding proteins (SREBPs) between the basic helix-loop-helix leucine zipper domain and the membrane attachment domain (By similarity). Cleaves and activates caspase-6, -7 and -9 (CASP6, CASP7 and CASP9, respectively) (PubMed:<a href="http://www.uniprot.org/citations/7596430" target="\_blank">7596430</a>). Cleaves and inactivates interleukin-18 (IL18) (PubMed:<a href="http://www.uniprot.org/citations/9334240" target="\_blank">9334240</a>, PubMed:<a href="http://www.uniprot.org/citations/37993714" target="\_blank">37993714</a>). Involved in the cleavage of huntingtin (PubMed:<a href="http://www.uniprot.org/citations/8696339" target="\_blank">8696339</a>). Triggers cell adhesion in sympathetic neurons through RET cleavage (PubMed:<a href="http://www.uniprot.org/citations/21357690" target="\_blank">21357690</a>). Cleaves and inhibits serine/threonine-protein kinase AKT1 in response to oxidative stress (PubMed:<a href="http://www.uniprot.org/citations/23152800" target="\_blank">23152800</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 (PubMed:<a href="http://www.uniprot.org/citations/30878284" target="\_blank">30878284</a>). Also involved in pyroptosis by mediating cleavage and activation of gasdermin-E (GSDME) (PubMed:<a href="http://www.uniprot.org/citations/35446120" target="\_blank">35446120</a>, PubMed:<a href="http://www.uniprot.org/citations/35338844" target="\_blank">35338844</a>). Cleaves XRCC4 and phospholipid scramblase proteins XKR4, XKR8 and XKR9, leading to promote phosphatidylserine exposure on apoptotic cell surface (PubMed:<a href="http://www.uniprot.org/citations/23845944" target="\_blank">23845944</a>, PubMed:<a href="http://www.uniprot.org/citations/33725486" target="\_blank">33725486</a>).

### Cellular Location

Cytoplasm.

### Tissue Location

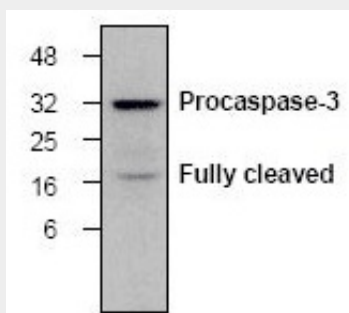
Highly expressed in lung, spleen, heart, liver and kidney. Moderate levels in brain and skeletal muscle, and low in testis. Also found in many cell lines, highest expression in cells of the immune system.

### **Caspase-3 Antibody (Clone C33) - 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-3 Antibody (Clone C33) - Images**



Western blot analysis of caspase-3 expression in HeLa cells treated with camptothecin (2  $\mu$ M).

### **Caspase-3 Antibody (Clone C33) - Background**

The caspase family of cysteine proteases play a key role in apoptosis. Caspase-3 is the most extensively studied apoptotic protein among caspase family members. Caspase-3 is synthesized as inactive pro-enzyme that is processed in cells undergoing apoptosis by self-proteolysis and/or cleavage by another upstream protease. The processed form of caspase-3 consists of large (17 kD) and small (12 kD) subunits which associate to form an active enzyme. The active caspase-3 proteolytically cleaves and activates other caspases, as well as relevant targets in the cells (e.g., PARP and DFF).