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# Caspase-6 Antibody

Catalog # ASC10301

## Product Information

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| **Application** | WB, IF, ICC, E |
| **Primary Accession** | P55212 |
| **Other Accession** | NP_001217, 14916483 |
| **Reactivity** | Human |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Isotype** | IgG |
| **Calculated MW** | 33310 |
| **Concentration (mg/ml)** | 1 mg/mL |
| **Conjugate** | Unconjugated |
| **Application Notes** | Casp-6 antibody can be used for the detection of Caspase-6 by Western blot at 1 and 2 g/mL. Antibody can also be used for immunocytochemistry starting at 1 g/mL. For immunofluorescence start at 10 g/mL. |

## Additional Information

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| **Gene ID** | 839 |
| **Other Names** | Caspase-6 Antibody: MCH2, MCH2, Caspase-6, Apoptotic protease Mch-2, CASP-6, caspase 6, apoptosis-related cysteine peptidase |
| **Target/Specificity** | CASP6; Depending on cell lines or tissues used, either full-length or other cleavage products may be observed. |
| **Reconstitution & Storage** | Caspase-6 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures. |
| **Precautions** | Caspase-6 Antibody is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **Name** | CASP6 ( HGNC:1507) |
| **Function** | Cysteine protease that plays essential roles in programmed cell death, axonal degeneration, development and innate immunity (PubMed:19133298, PubMed:22858542, PubMed:27032039, PubMed:28864531, PubMed:30420425, PubMed:32298652, PubMed:8663580). Acts as a non-canonical executioner caspase during apoptosis: localizes in the nucleus and cleaves the nuclear structural protein NUMA1 and lamin A/LMNA thereby inducing nuclear shrinkage and fragmentation (PubMed:11953316, PubMed:17401638, PubMed:8663580, PubMed:9463409). Lamin-A/LMNA |

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| | cleavage is required for chromatin condensation and nuclear disassembly during apoptotic execution (PubMed:11953316). Acts as a regulator of liver damage by promoting hepatocyte apoptosis: in absence of phosphorylation by AMP-activated protein kinase (AMPK), catalyzes cleavage of BID, leading to cytochrome c release, thereby participating in nonalcoholic steatohepatitis (PubMed:32029622). Cleaves PARK7/DJ-1 in cells undergoing apoptosis (By similarity). Involved in intrinsic apoptosis by mediating cleavage of RIPK1 (PubMed:22858542). Furthermore, cleaves many transcription factors such as NF-kappa-B and cAMP response element-binding protein/CREBBP (PubMed:10559921, PubMed:14657026). Cleaves phospholipid scramblase proteins XKR4 and XKR9 (By similarity). In addition to apoptosis, involved in different forms of programmed cell death (PubMed:32298652). Plays an essential role in defense against viruses by acting as a central mediator of the ZBP1-mediated pyroptosis, apoptosis, and necroptosis (PANoptosis), independently of its cysteine protease activity (PubMed:32298652). PANoptosis is a unique inflammatory programmed cell death, which provides a molecular scaffold that allows the interactions and activation of machinery required for inflammasome/pyroptosis, apoptosis and necroptosis (PubMed:32298652). Mechanistically, interacts with RIPK3 and enhances the interaction between RIPK3 and ZBP1, leading to ZBP1-mediated inflammasome activation and cell death (PubMed:32298652). Plays an essential role in axon degeneration during axon pruning which is the remodeling of axons during neurogenesis but not apoptosis (By similarity). Regulates B-cell programs both during early development and after antigen stimulation (By similarity). |
| **Cellular Location** | Cytoplasm. Nucleus |

## Background

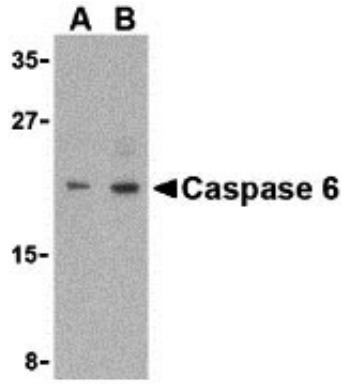
Caspase-6 Antibody: Caspases are a family of cysteine proteases that can be divided into the apoptotic and inflammatory caspase subfamilies. Unlike the apoptotic caspases, members of the inflammatory subfamily are generally not involved in cell death but are associated with the immune response to microbial pathogens. The apoptotic subfamily can be further divided into initiator caspases, which are activated in response to death signals, and executioner caspases, which are activated by the initiator caspases and are responsible for cleavage of cellular substrates that ultimately lead to cell death. Caspase-6 is an executioner caspase that was identified based on its homology with human caspases 2 and 3 as well as the C. elegans cell death protein CED-3. It possesses two isoforms, of which only the longer form possesses protease activity. Caspase-6 is highly expressed in adult brain and may play a role in several neuronal pathologies.

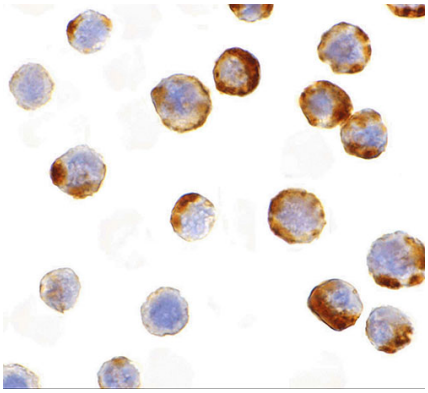
## References


Martinon F and Tschopp J. Inflammatory caspases: linking an intracellular innate immune system to autoinflammatory diseases. Cell 2004; 117:561-74.
Zhivotovsky B and Orrenius S. Caspase-2 function in response to DNA damage. Biochim. Biophys. Res. Comm. 2005; 331:859-67.
Wolf BB and Green DR. Suicidal tendencies: apoptotic cell death by caspase family proteinases. J. Biol. Chem. 1999; 274:20049-52.
Fernandes-Alnemri T, Litwack G, and Alnemri ES. Mch2, a new member of the apoptotic Ced-3/Ice cysteine protease gene family. Cancer Res. 1995; 55:2737-42.

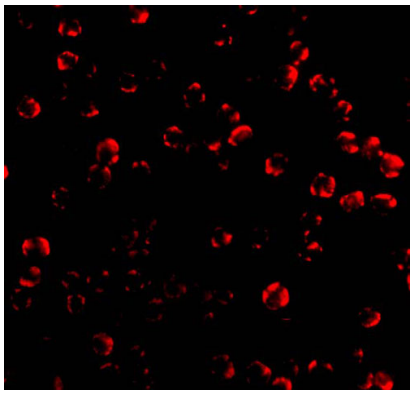

## Images

Western blot analysis of Caspase-6 in MCF7 cell lysate with Caspase-6 antibody (IN) at (A) 1 and (B) 2 µg/mL.



Immunocytochemistry of caspase-6 in MCF7 with caspase-6 antibody at 1 µg/mL.



Immunofluorescence of Caspase 6 in MCF7 cells with Caspase 6 antibody at 10 µg/mL.

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