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# Active Caspase-3 Monoclonal Antibody(5E1)

Catalog # AP63571

## Product Information

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|---|---|
| **Application** | IF, ICC, WB, IP, IHC-P |
| **Primary Accession** | P42574 |
| **Reactivity** | Human, Mouse, Rat, Chicken |
| **Host** | Mouse |
| **Clonality** | Monoclonal |
| **Calculated MW** | 31608 |

## Additional Information

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|---|---|
| **Gene ID** | 836 |
| **Other Names** | CASP3; CPP32; Caspase-3; CASP-3; Apopain; Cysteine protease CPP32; CPP-32; Protein Yama; SREBP cleavage activity 1; SCA-1 |
| **Dilution** | IF~~IF: 1:50-200 WB: 1:500-1000 IHC: 1:100-200 ICC~~N/A WB~~IF: 1:50-200 WB: 1:500-1000 IHC: 1:100-200 IP~~N/A IHC-P~~IF: 1:50-200 WB: 1:500-1000 IHC: 1:100-200 |
| **Format** | PBS, pH 7.4, containing 0.09% (W/V) sodium azide as Preservative and 50% Glycerol. |
| **Storage Conditions** | -20℃ |

## Protein Information

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|---|---|
| **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:18723680, PubMed:20566630, PubMed:23650375, PubMed:35338844, PubMed:35446120, PubMed:7596430). Following cleavage and activation by initiator caspases (CASP8, CASP9 and/or CASP10), mediates execution of apoptosis by catalyzing cleavage of many proteins (PubMed:18723680, PubMed:20566630, PubMed:23650375, PubMed:7596430). At the onset of apoptosis, it proteolytically cleaves poly(ADP-ribose) polymerase PARP1 at a '216-Asp-\|-Gly-217' bond (PubMed:10497198, PubMed:16374543, PubMed:7596430, PubMed:7774019). 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:7596430). Cleaves and inactivates interleukin-18 (IL18) |

(PubMed:37993714, PubMed:9334240). Involved in the cleavage of huntingtin (PubMed:8696339). Triggers cell adhesion in sympathetic neurons through RET cleavage (PubMed:21357690). Also involved in axon pruning during brain development (By similarity). Cleaves DSG2 in response to apoptosis resulting in a loss of full length DSG2 at desmosome cell junctions and subsequent loss of cell-cell adhesion (PubMed:17559062). Also cleaves JUP in response to apoptosis (PubMed:17559062). Cleaves and inhibits serine/threonine-protein kinase AKT1 in response to oxidative stress (PubMed:23152800). 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:30878284). Also involved in pyroptosis by mediating cleavage and activation of gasdermin-E (GSDME) (PubMed:35338844, PubMed:35446120). Cleaves XRCC4 and phospholipid scramblase proteins XKR4, XKR8 and XKR9, leading to promote phosphatidylserine exposure on apoptotic cell surface (PubMed:23845944, PubMed:33725486). Cleaves BIRC6 following inhibition of BIRC6-caspase binding by DIABLO/SMAC (PubMed:36758104, PubMed:36758106).

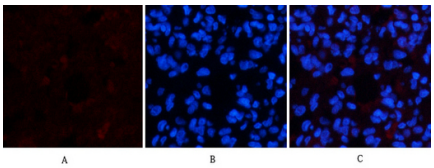
**Cellular Location** Cytoplasm.

**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.

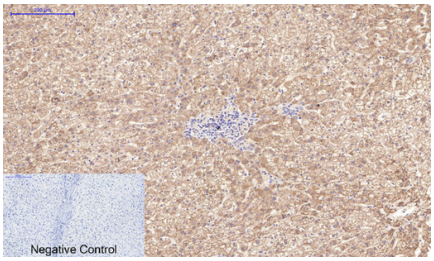
## Background

Involved in the activation cascade of caspases responsible for apoptosis execution. At the onset of apoptosis it proteolytically cleaves poly(ADP-ribose) polymerase (PARP) at a '216-Asp-|-Gly-217' bond. Cleaves and activates sterol regulatory element binding proteins (SREBPs) between the basic helix-loop-helix leucine zipper domain and the membrane attachment domain. Cleaves and activates caspase-6, -7 and -9. Involved in the cleavage of huntingtin. Triggers cell adhesion in sympathetic neurons through RET cleavage.

## Images

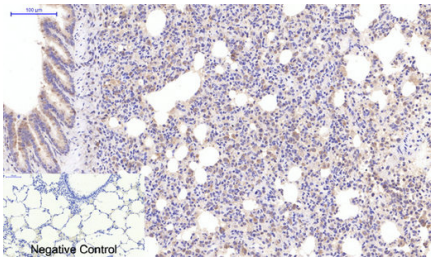



Immunofluorescence analysis of rat-lung tissue. 1,Active Caspase-3 Monoclonal Antibody(5E1)(red) was diluted at 1:200(4°C,overnight). 2, Cy3 labled Secondary antibody was diluted at 1:300(room temperature, 50min).3, Picture B: DAPI(blue) 10min. Picture A:Target. Picture B: DAPI. Picture C: merge of A+B

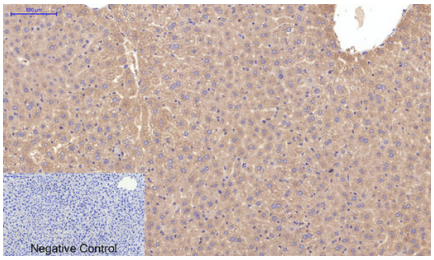



Immunohistochemical analysis of paraffin-embedded Human-liver tissue. 1,Active Caspase-3 Monoclonal Antibody(5E1) was diluted at 1:200(4°C,overnight). 2, Sodium citrate pH 6.0 was used for antibody retrieval(>98°C,20min). 3,Secondary antibody was diluted at 1:200(room tempeRature, 30min). Negative control was used by secondary antibody only.

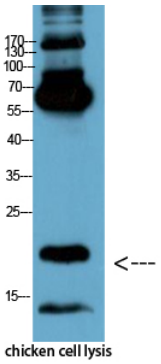
Immunohistochemical analysis of paraffin-embedded Rat-lung tissue. 1,Active Caspase-3 Monoclonal Antibody(5E1) was diluted at 1:200(4°C,overnight). 2, Sodium citrate pH 6.0 was used for antibody retrieval(>98°C,20min). 3,Secondary antibody was diluted at 1:200(room tempeRature, 30min). Negative control




was used by secondary antibody only.




Immunohistochemical analysis of paraffin-embedded Mouse-liver tissue. 1,Active Caspase-3 Monoclonal Antibody(5E1) was diluted at 1:200(4°C,overnight). 2, Sodium citrate pH 6.0 was used for antibody retrieval(>98°C,20min). 3,Secondary antibody was diluted at 1:200(room tempeRature, 30min). Negative control was used by secondary antibody only.




Western Blot analysis of chicken cell lysis using Antibody diluted at 1:1000

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.