

**Product Name: Active Caspase-3(5E1)Mouse Monoclonal Antibody**  
**Catalog #: AMM06555**

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## Summary

<b>Production Name</b>	Active Caspase-3(5E1)Mouse Monoclonal Antibody
<b>Description</b>	Mouse Monoclonal Antibody
<b>Host</b>	Mouse
<b>Application</b>	IF-P,IF-F,ICC/IF,WB,IP,IHC-P
<b>Reactivity</b>	Human,Mouse,Rat,Chicken

## Performance

<b>Conjugation</b>	Unconjugated
<b>Modification</b>	Unmodified
<b>Isotype</b>	IgG
<b>Clonality</b>	Monoclonal
<b>Form</b>	Liquid
<b>Storage</b>	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.
<b>Buffer</b>	PBS, pH 7.4, containing 0.5%BSA, 0.02% New type preservative N as Preservative and 50% Glycerol.
<b>Purification</b>	Affinity purification

## Immunogen

<b>Gene Name</b>	CASP3
<b>Alternative Names</b>	CASP3; CPP32; Caspase-3; CASP-3; Apopain; Cysteine protease CPP32; CPP-32; Protein Yama; SREBP cleavage activity 1; SCA-1
<b>Gene ID</b>	836.0
<b>SwissProt ID</b>	P42574.Recombinant Protein of Active Caspase-3

## Application

<b>Dilution Ratio</b>	IF-P/IF-F/ICC/IF 1:50-200, WB 1:500-1000, IHC-P 1:100-200
<b>Molecular Weight</b>	17kDa

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## Background

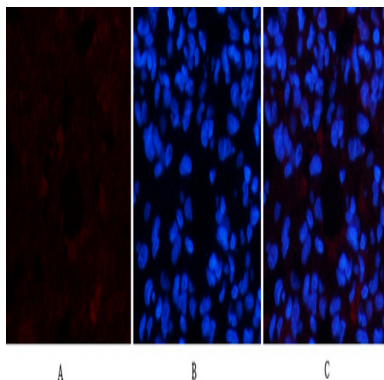
This gene encodes a protein which is a member of the cysteine-aspartic acid protease (caspase) family. Sequential activation of caspases plays a central role in the execution-phase of cell apoptosis. Caspases exist as inactive proenzymes which undergo proteolytic processing at conserved aspartic residues to produce two subunits, large and small, that dimerize to form the active enzyme. This protein cleaves and activates caspases 6, 7 and 9, and the protein itself is processed by caspases 8, 9 and 10. 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. Alternative splicing of this gene results in two transcript variants that encode the same protein. [provided by RefSeq, Jul 2008],catalytic activity:Strict requirement for an Asp residue at positions P1 and P4. It has a preferred cleavage sequence of Asp-Xaa-Xaa-Asp-|- with a hydrophobic amino-acid residue at P2 and a hydrophilic amino-acid residue at P3, although Val or Ala are also accepted at this position.,enzyme regulation:Inhibited by isatin sulfonamides.,function: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.,PTM: Cleavage by granzyme B, caspase-6, caspase-8 and caspase-10 generates the two active subunits. Additional processing of the propeptides is likely due to the autocatalytic activity of the activated protease. Active heterodimers between the small subunit of caspase-7 protease and the large subunit of caspase-3 also occur and vice versa.,PTM: S-nitrosylated on its catalytic site cysteine in unstimulated human cell lines and denitrosylated upon activation of the Fas apoptotic pathway, associated with an increase in intracellular caspase activity. Fas therefore activates caspase-3 not only by inducing the cleavage of the caspase zymogen to its active subunits, but also by stimulating the denitrosylation of its active site thiol.,similarity: Belongs to the peptidase C14A family.,subunit: Heterotetramer that consists of two anti-parallel arranged heterodimers, each one formed by a 17 kDa (p17) and a 12 kDa (p12) subunit.,tissue specificity: 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.,

## Research Area

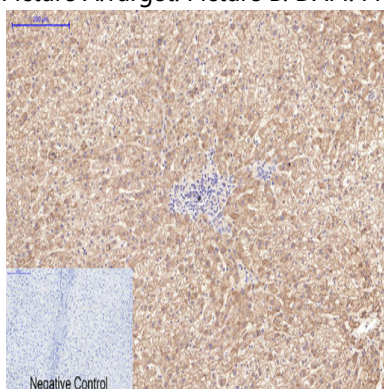
MAPK\_ERK\_Growth;MAPK\_G\_Protein;p53;Apoptosis\_Inhibition;Apoptosis\_Mitochondrial;Apoptosis\_Overview;Natural killer cell mediated cytotoxicity;Alzheimer's disease;Parkinson's disease;Amyotrophic lateral sclerosis (ALS);Huntington's disease;Epithelial cell signaling in Helicobacter pylori infection;Pathways in cancer;Colorectal cancer;Viral myocarditis;

## Image Data

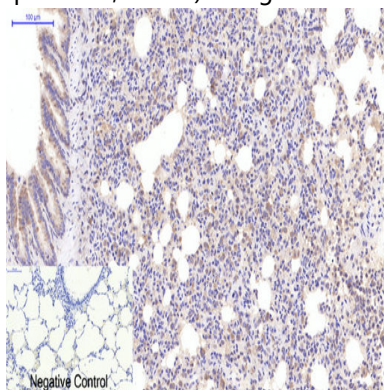
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Immunofluorescence analysis of rat-lung tissue. 1,Active Caspase-3 Monoclonal Antibody (5E1) (red) was diluted at 1:200 (4°C,overnight) . 2, Cy3 labeled Secondary antibody was diluted at 1:300 (room temperature, 50min) .3, Picture B: DAPI (blue) 10min.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

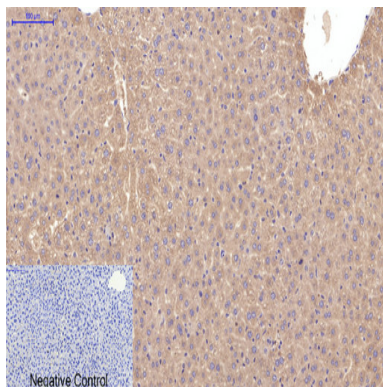


Immunohistochemical analysis of paraffin-embedded Human-liver tissue. 1,Active Caspase-3 Monoclonal Antibody (5E1) was diluted at 1:200 (4°C,overnight) . 2, Sodium citrate pH 6.0 was used for antibody retrieval (>98°C,20min) . 3,Secondary antibody was diluted at 1:200 (room temperature, 30min) . Negative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

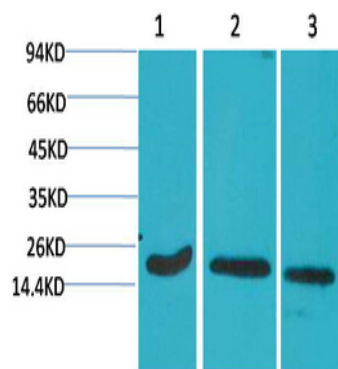


Immunohistochemical analysis of paraffin-embedded Rat-lung tissue. 1,Active Caspase-3 Monoclonal Antibody (5E1) was diluted at 1:200 (4°C,overnight) . 2, Sodium citrate pH 6.0 was used for antibody retrieval (>98°C,20min) . 3,Secondary antibody was diluted at 1:200 (room temperature, 30min) . Negative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

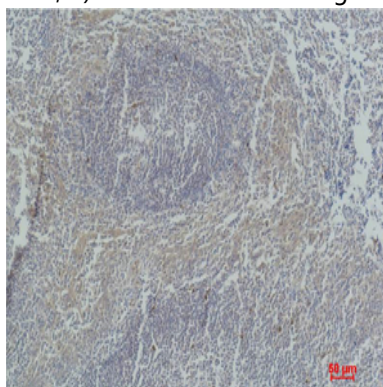
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Immunohistochemical analysis of paraffin-embedded Mouse-liver tissue. 1,Active Caspase-3 Monoclonal Antibody (5E1) was diluted at 1:200 (4°C,overnight) . 2, Sodium citrate pH 6.0 was used for antibody retrieval (>98°C,20min) . 3,Secondary antibody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



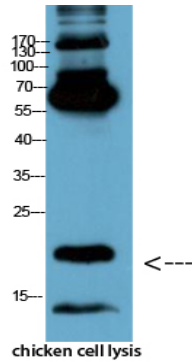
Western blot analysis of 1) Hela, 2) 3T3, 3) Rat Brain Tissue using Active Caspase-3 Monoclonal Antibody.



Immunohistochemical analysis of paraffin-embedded Human Tonsil Tissue using Active Caspase-3 Monoclonal Antibody.

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

### **Note**

For research use only.