

## Active Caspase-3 (5E1) Mouse mAb

CatalogNo: YM3431

Orthogonal Validated Comparable Abs 

### Key Features

#### Host Species

- Mouse

#### Reactivity

- Human, Mouse, Rat, Chicken

#### Applications

- IF, WB, IP, IHC

#### MW

- 17kD (Observed)

### Recommended Dilution Ratios

IF 1:50-200

WB 1:500-1000

IHC 1:100-200

### Storage

**Storage\*** -15°C to -25°C/1 year(Do not lower than -25°C)**Formulation** PBS, pH 7.4, containing 0.5%BSA, 0.02% sodium azide as Preservative and 50% Glycerol.

### Basic Information

**Clonality** Monoclonal**Clone Number** 5E1

### Immunogen Information

**Immunogen** Recombinant Protein of Active Caspase-3**Specificity** The antibody detects endogenous cleaved Caspase-3 protein p17 isoform.

## | Target Information

**Gene name** CASP3

**Protein Name** Caspase3

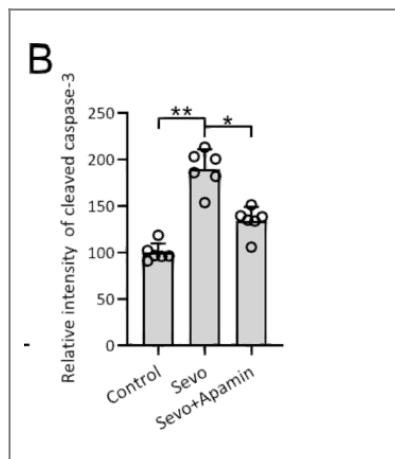
Organism	Gene ID	UniProt ID
Human	<a href="#">836</a> ;	<a href="#">P42574</a> ;
Mouse		<a href="#">P70677</a> ;
Rat		<a href="#">P55213</a> ;

**Cellular Localization** Cytoplasm.

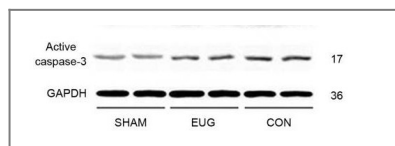
**Tissue specificity** Highly expressed in lung, spleen, heart, liver and kidney. Moderate levels in brain and skeletal muscle, and low in testis. Also found in many cell lines, highest expression in cells of the immune system.

**Function** 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.,

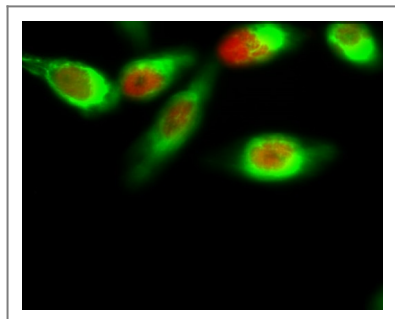
## | Validation Data



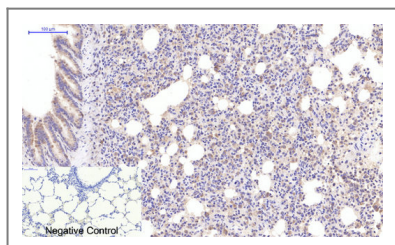
Apamin, an SK2 Inhibitor, Attenuated Neonatal Sevoflurane Exposures Caused Cognitive Deficits in Mice through the Regulation of Hippocampal Neuroinflammation. ACS Chemical Neuroscience Xiangdi Yu IHC Mouse hippocampal



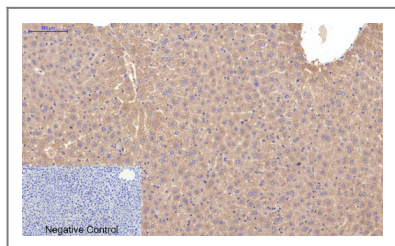
Fen, Wei, et al. "Eugenol protects the transplanted heart against ischemia/reperfusion injury in rats by inhibiting the inflammatory response and apoptosis." Experimental and therapeutic medicine 16.4 (2018): 3464-3470.



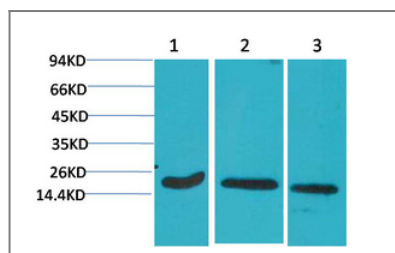
Immunofluorescence analysis of Hela cell. 1, FoxO1 (phospho Ser256) Polyclonal Antibody (red) was diluted at 1:200 (4° overnight). Active Caspase-3 Monoclonal Antibody (5E1) (green) was diluted at 1:200 (4° overnight). 2, Goat Anti Rabbit Alexa Fluor 594 Catalog: RS3611 was diluted at 1:1000 (room temperature, 50min). Goat Anti Mouse Alexa Fluor 488 Catalog: RS3208 was diluted at 1:1000 (room temperature, 50min).



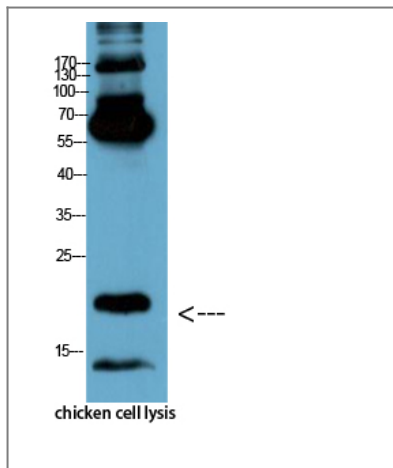
Immunohistochemical analysis of paraffin-embedded Rat-lung tissue. 1, Active Caspase-3 Monoclonal Antibody (5E1) was diluted at 1:200 (4°C, overnight). 2, Sodium citrate pH 6.0 was used for antibody retrieval (>98°C, 20min). 3, Secondary antibody was diluted at 1:200 (room temperature, 30min). Negative 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 1) Hela, 2) 3T3, 3) Rat Brain Tissue using Active Caspase-3 Monoclonal Antibody.



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

## Contact information

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Please scan the QR code  
to access additional  
product information:  
**Active Caspase-3  
(5E1) Mouse mAb**

For Research Use Only. Not for Use in Diagnostic Procedures.

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