



Rabbit Anti-caspase-3 p12 subunit antibody

SL0087R

Product Name:	caspase-3 p12 subunit
Chinese Name:	活化半胱氨酸蛋白酶蛋白3抗体
Alias:	Caspase-3 subunit p12; APOPAIN; CASP3; Caspase 3 apoptosis related cysteine protease; Caspase3; CPP32; CPP32B; Cysteine protease CPP32; Human cysteine protease CPP32 isoform alpha mRNA complete cds; PARP cleavage protease; SCA 1; SCA1; SREBP cleavage activity 1; Yama; CASP3_HUMAN; Caspase-3; CASP-3; Apopain; Protein Yama; SREBP cleavage activity 1; SCA-1.
Organism Species:	Rabbit
Clonality:	Polyclonal
React Species:	Human,Mouse,Rat,Dog,Rabbit,
Applications:	ELISA=1:500-1000IHC-P=1:400-800IHC-F=1:400-800Flow-Cyt=1µg /testIF=1:100-500 (Paraffin sections need antigen repair) not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight:	12/32kDa
Cellular localization:	cytoplasmic
Form:	Lyophilized or Liquid
Concentration:	1mg/ml
immunogen:	KLH conjugated synthetic peptide derived from human caspase-3 p12 subunit:201-277/277
Lsotype:	IgG
Purification:	affinity purified by Protein A
Storage Buffer:	0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol.
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
PubMed:	PubMed
Product Detail:	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 other upstream proteases (e.g. Caspases 8, 9 and 10). The processed form of Caspase 3 consists of large (17kDa) and small (12kDa) subunits which associate to form an active enzyme. Caspase 3 is cleaved at Asp28 Ser29 and Asp175 Ser176. The active Caspase 3 proteolytically cleaves and activates other caspases (e.g. Caspases 6, 7 and 9), as well as relevant targets in the cells (e.g. PARP and DFF). Alternative splicing of this gene results in two transcript variants which encode the same protein. In immunohistochemical studies Caspase 3 expression has been shown to be widespread but not present in all cell types (e.g. commonly reported in epithelial cells of skin, renal proximal tubules and collecting ducts). Differences in the level of Caspase 3 have been reported in cells of short lived nature (eg germinal centre B cells) and those that are long lived (eg mantle zone B cells). Caspase 3 is the predominant caspase involved in the cleavage of amyloid beta 4A precursor protein, which is associated with neuronal death in Alzheimer's disease.

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. Triggers cell adhesion in sympathetic neurons through RET cleavage.

Subunit:

Heterotetramer that consists of two anti-parallel arranged heterodimers, each one formed by a 17 kDa (p17) and a 12 kDa (p12) subunit. Interacts with BIRC6/bruce.

Subcellular Location:

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.

Post-translational modifications:

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. 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.

SWISS:

P42574

Gene ID:

836

Database links:

[Entrez Gene: 836](#)Human

[Entrez Gene: 12367](#)Mouse

[Entrez Gene: 397244](#)Pig

[Entrez Gene: 100008840](#)Rabbit

[Entrez Gene: 25402](#)Rat

[Omim: 600636](#)Human

[SwissProt: P42574](#)Human

[SwissProt: P70677](#)Mouse

[SwissProt: Q95ND5](#)Pig

[SwissProt: Q8MJC3](#)Rabbit

[SwissProt: P55213](#)Rat

[Unigene: 141125](#)Human

[Unigene: 34405](#)Mouse

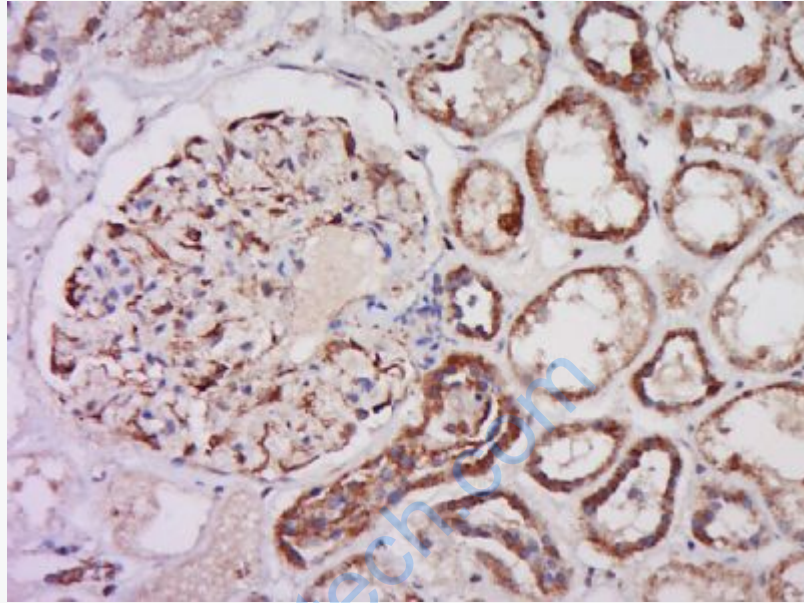
[Unigene: 10562](#)Rat

Important Note:

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

正常情况下caspase-3以无活性酶原形式存在于cytoplasmic中。当 caspase-

3被上游caspases激活生成活化的caspase-3 p17和p12亚基, 对Apoptosis的发生和调制发挥重要作用。

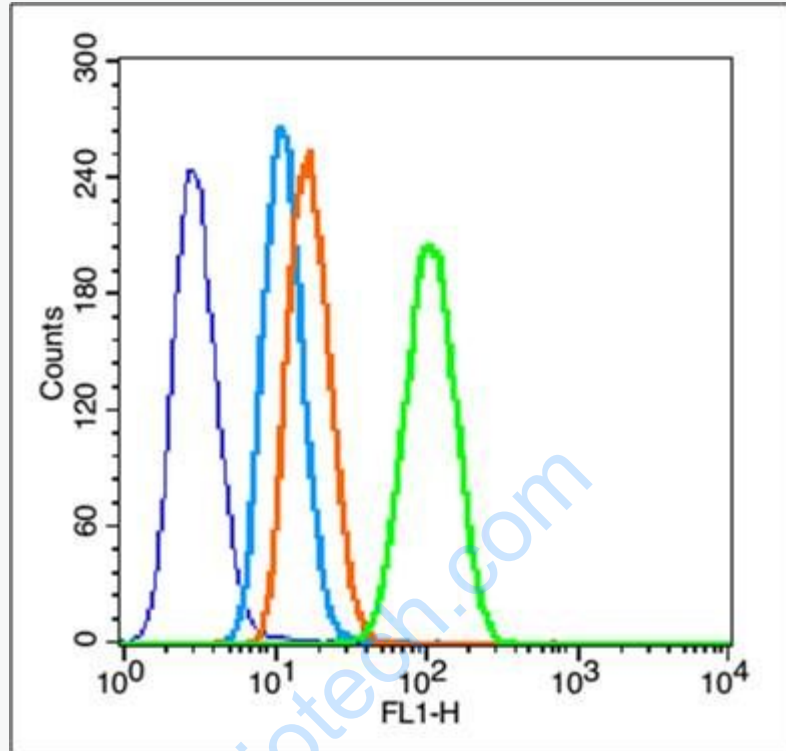


Picture:

Tissue/cell: Human kidney tissue; 4% Paraformaldehyde-fixed and paraffin-embedded;

Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37°C for 20 min;

Incubation: Anti-Caspase-3 Polyclonal Antibody, Unconjugated(SL0087R) 1:500, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining



Blank control (blue line): HeLa (fixed with 80% methanol (5 min at -20°C) and then permeabilized with 0.1% PBS-Tween for 20 min at room temperature).

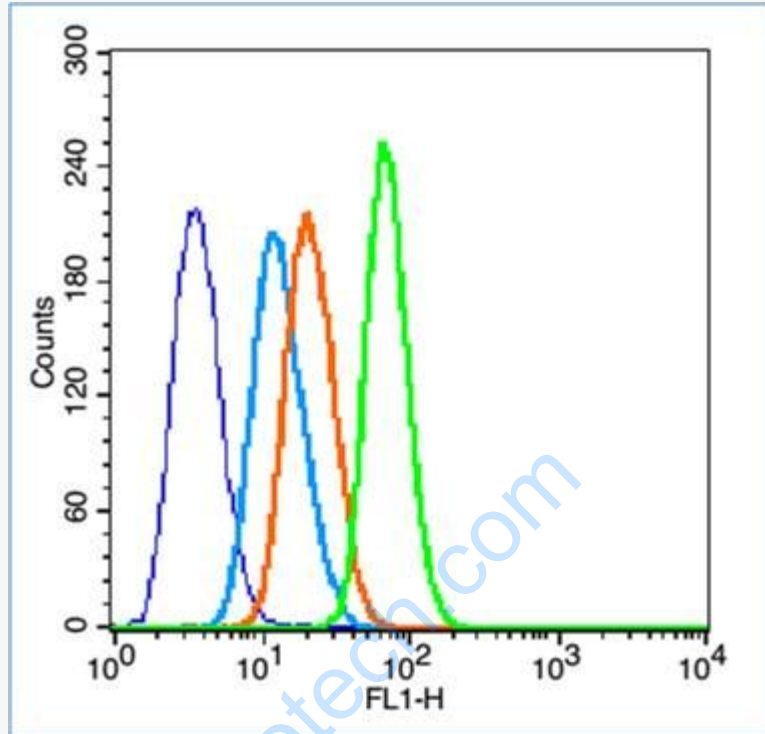
Primary Antibody (green line): Rabbit Anti-caspase-3 p12 subunit antibody (SL0087R)

Dilution: $1\mu\text{g} / 10^6$ cells;

Isotype Control Antibody (orange line): Rabbit IgG .

Secondary Antibody (white blue line): Goat anti-rabbit IgG-FITC

Dilution: $1\mu\text{g} / \text{test}$.



Blank control (blue line): HL60 (fixed with 2% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min at room temperature).

Primary Antibody (green line): Rabbit Anti-caspase-3 p12 subunit antibody (SL0087R), Dilution: 1 μ g /10⁶ cells;

Isotype Control Antibody (orange line): Rabbit IgG .

Secondary Antibody (white blue line): Goat anti-rabbit IgG-FITC, Dilution: 1 μ g /test.