



## Rabbit Anti-Caspase-3 antibody

SL0081R

<b>Product Name:</b>	Caspase-3
<b>Alias:</b>	Caspase-3 subunit p17; 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.
<b>Organism Species:</b>	Rabbit
<b>Clonality:</b>	Polyclonal
<b>React Species:</b>	Human,Mouse,Rat,Dog,Pig,Cow,Horse,Rabbit,Sheep,
<b>Applications:</b>	WB=1:500-2000ELISA=1:500-1000IHC-P=1:400-800IHC-F=1:400-800Flow-Cyt=2µg/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.
<b>Molecular weight:</b>	28kDa
<b>Cellular localization:</b>	cytoplasmic
<b>Form:</b>	Lyophilized or Liquid
<b>Concentration:</b>	1mg/ml
<b>immunogen:</b>	KLH conjugated synthetic peptide derived from human caspase-3 p17 subunit:1-100/277
<b>Lsotype:</b>	IgG
<b>Purification:</b>	affinity purified by Protein A
<b>Storage Buffer:</b>	0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol.
<b>Storage:</b>	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.
<b>Product Detail:</b>	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.

Reacts with Caspase-3 subunit p17 and precursor.

**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

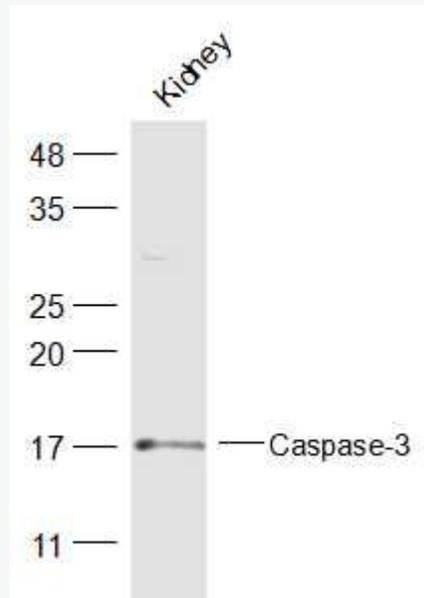
**Database links:**

**Important Note:**

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

Caspase-3 is widely distributed in various types of cells, and is one of the most important apoptosis executors in caspase family. Activated caspase-3 can inactivate many proteins or kinases related to cell structure, cell cycle and DNA repair, so as to make apoptosis

**Picture:**



Sample:

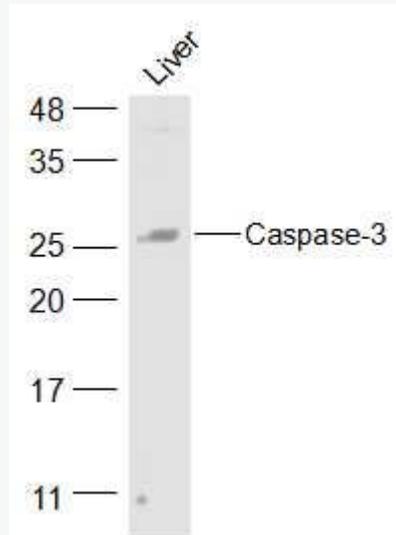
Kidney (Mouse) Lysate at 40 ug

Primary: Anti-Caspase-3 (SL0081R) at 1/300 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 28 kD

Observed band size: 17 kD



Sample:

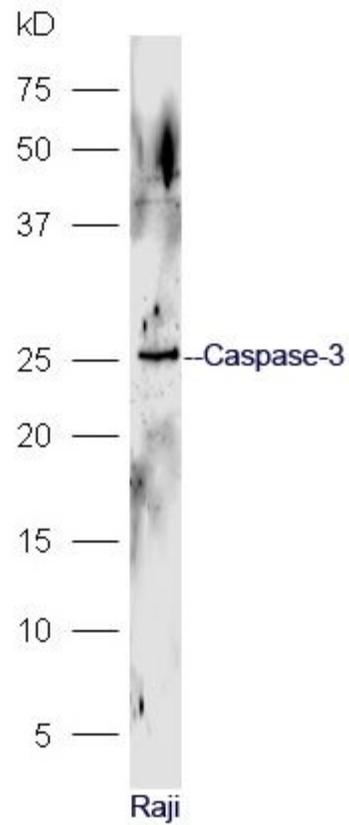
Liver (Mouse) Lysate at 40 ug

Primary: Anti-Caspase-3 (SL0081R) at 1/500 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 28 kD

Observed band size: 28 kD



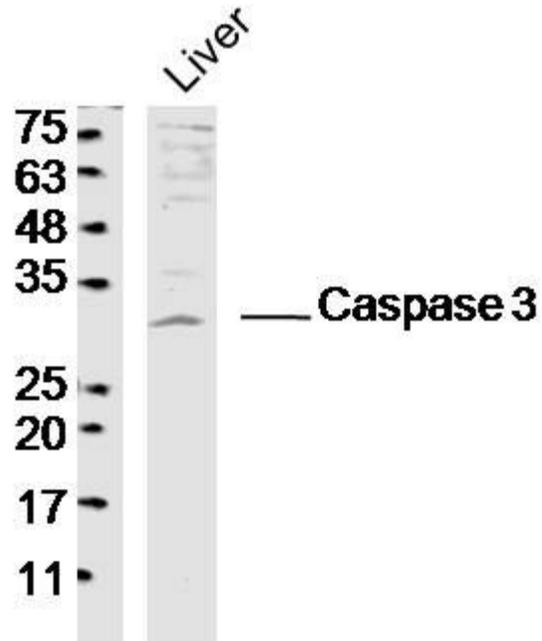
Sample: Raji Cell lysate;

Primary: Anti-Caspase-3 (SL0081R) at 1:300;

Secondary: HRP conjugated Goat-Anti-rabbit IgG(SL0081R) at 1: 5000;

Predicted band size: 17/28 kD

Observed band size: 26 kD



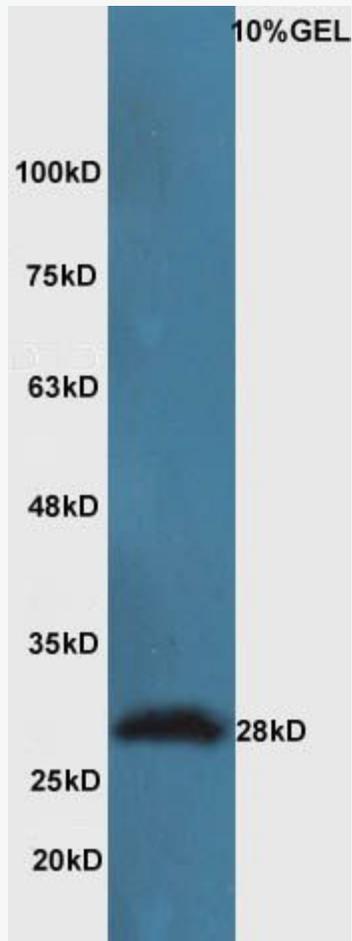
Sample: Liver(Sheep)Lysate at 40 ug

Primary: Anti-Caspase-3(SL0081R)at 1/300 dilution

Secondary: IRDye800CW Goat Anti-RabbitIgG at 1/20000 dilution

Predicted band size: 28kD

Observed band size: 30kD



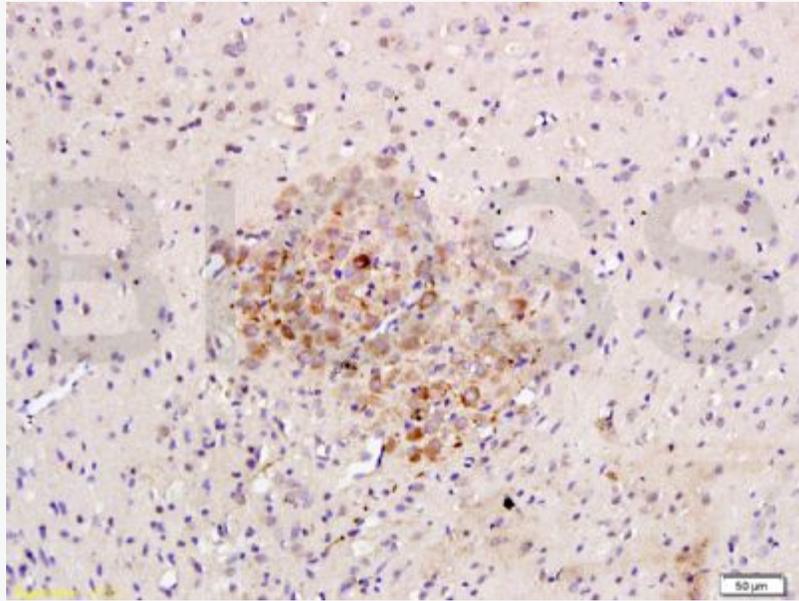
Protein:Lung(Mouse) lysate at 30ug;

Primary: Anti-caspase-3 (SL0081R) at 1:300 dilution;

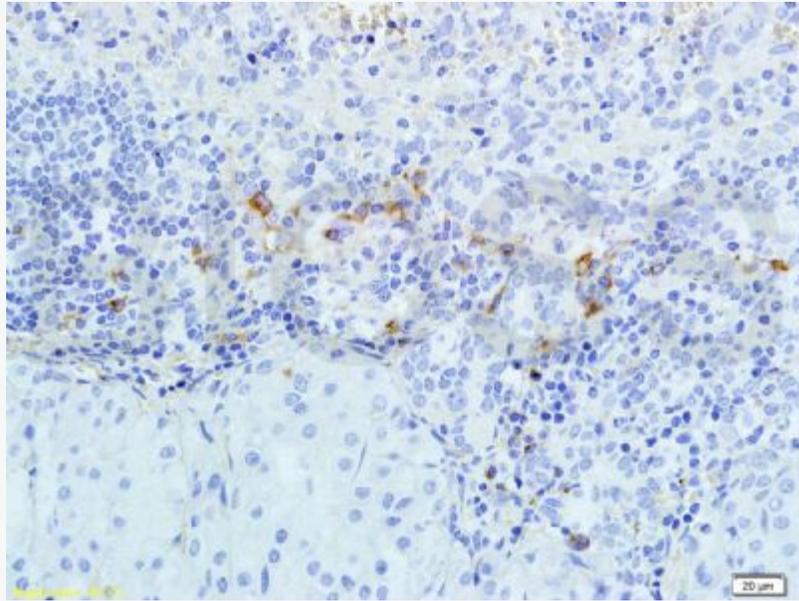
Secondary: HRP conjugated Goat-Anti-Rabbit IgG(bse-0295G) at 1: 5000;

Predicted band size : 17/28 kD

Observed band size : 28 kD



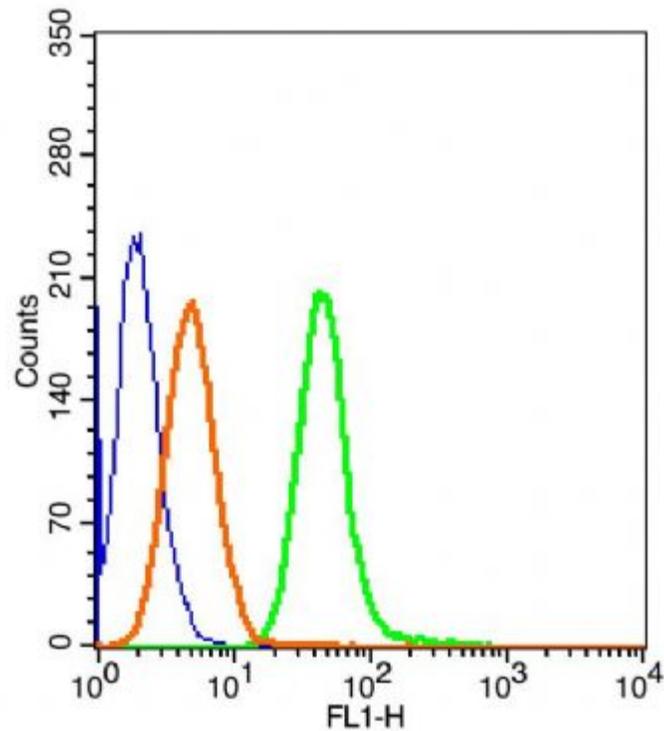
Tissue/cell: rat brain tissue; 4% Paraformaldehyde-fixed and paraffin-embedded;  
Antigen retrieval: citrate buffer ( 0.01M, pH 6.0 ), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37°C for 20 min;  
Incubation: Anti-Caspase-3 Polyclonal Antibody, Unconjugated(SL0081R) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining



Tissue/cell: rabbit pancreas 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(SL0081R) 1:300, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining



The figure annotation:

The blue histogram is unstained cells

. The Orange histogram is cells stained with Rabbit IgG/FITC (SL0081R).

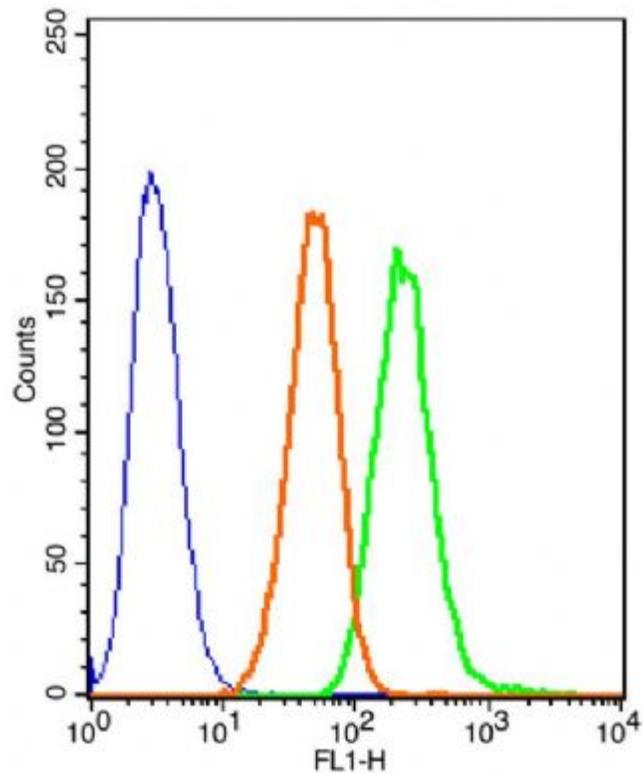
The green histogram is cells stained with Rabbit Anti-Caspase-3/FITC Conjugated antibody (SL0081R).

Controls

Positive control: HepG 2 cells

Isotype control: Cell lines treated with Rabbit IgG/FITC (SL0081R) instead of the primary antibody to confirm that primary antibody binding is specific. 2µg in 1

00µL1 X PBS containing 0.5% BSA.



The figure annotation:

The blue histogram is unstained cells.

The Orange histogram is cells stained with Rabbit IgG/FITC (SL0081R).

The green histogram is cells stained with Rabbit Anti-Caspase-3/FITC Conjugated antibody (SL0081R).

Controls

Positive control: A549 cells

Isotype control: Cell lines treated with Rabbit IgG/FITC(SL0081R) instead of the primary antibody to confirm that primary antibody binding is specific. 3µg in 1 00 µL 1 X PBS containing 0.5% BSA.