

# CASP3(Asp175) Antibody

Affinity Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP4985D

## Product Information

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<b>Application</b>	WB, IHC-P, FC, E
<b>Primary Accession</b>	<a href="#">P42574</a>
<b>Other Accession</b>	<a href="#">NP_004337</a>
<b>Reactivity</b>	Human, Rat, Mouse
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	Rabbit IgG
<b>Clone Names</b>	RB25834
<b>Calculated MW</b>	31608
<b>Antigen Region</b>	149-179

## Additional Information

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<b>Gene ID</b>	836
<b>Other Names</b>	Caspase-3, CASP-3, Apopain, Cysteine protease CPP32, CPP-32, Protein Yama, SREBP cleavage activity 1, SCA-1, Caspase-3 subunit p17, Caspase-3 subunit p12, CASP3, CPP32
<b>Target/Specificity</b>	This CASP3(Asp175) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 149-179 amino acids from human CASP3(Asp175).
<b>Dilution</b>	WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 E~~Use at an assay dependent concentration.
<b>Format</b>	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
<b>Storage</b>	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
<b>Precautions</b>	CASP3(Asp175) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	CASP3
<b>Synonyms</b>	CPP32 {ECO:0000303 PubMed:7983002}

<b>Function</b>	<p>Thiol protease that acts as a major effector caspase involved in the execution phase of apoptosis (PubMed:<a href="#">18723680</a>, PubMed:<a href="#">20566630</a>, PubMed:<a href="#">23650375</a>, PubMed:<a href="#">35338844</a>, PubMed:<a href="#">35446120</a>, PubMed:<a href="#">7596430</a>). Following cleavage and activation by initiator caspases (CASP8, CASP9 and/or CASP10), mediates execution of apoptosis by catalyzing cleavage of many proteins (PubMed:<a href="#">18723680</a>, PubMed:<a href="#">20566630</a>, PubMed:<a href="#">23650375</a>, PubMed:<a href="#">7596430</a>). At the onset of apoptosis, it proteolytically cleaves poly(ADP-ribose) polymerase PARP1 at a '216-Asp- -Gly-217' bond (PubMed:<a href="#">10497198</a>, PubMed:<a href="#">16374543</a>, PubMed:<a href="#">7596430</a>, PubMed:<a href="#">7774019</a>). 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:<a href="#">7596430</a>). Cleaves and inactivates interleukin-18 (IL18) (PubMed:<a href="#">37993714</a>, PubMed:<a href="#">9334240</a>). Involved in the cleavage of huntingtin (PubMed:<a href="#">8696339</a>). Triggers cell adhesion in sympathetic neurons through RET cleavage (PubMed:<a href="#">21357690</a>). Cleaves and inhibits serine/threonine-protein kinase AKT1 in response to oxidative stress (PubMed:<a href="#">23152800</a>). 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:<a href="#">30878284</a>). Also involved in pyroptosis by mediating cleavage and activation of gasdermin-E (GSDME) (PubMed:<a href="#">35338844</a>, PubMed:<a href="#">35446120</a>). Cleaves XRCC4 and phospholipid scramblase proteins XKR4, XKR8 and XKR9, leading to promote phosphatidylserine exposure on apoptotic cell surface (PubMed:<a href="#">23845944</a>, PubMed:<a href="#">33725486</a>). Cleaves BIRC6 following inhibition of BIRC6-caspase binding by DIABLO/SMAC (PubMed:<a href="#">36758104</a>, PubMed:<a href="#">36758106</a>).</p>
<b>Cellular Location</b>	Cytoplasm.
<b>Tissue Location</b>	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

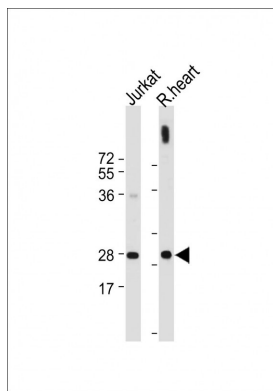
This gene encodes a protein which is a member of the cysteine-aspartic acid protease (caspase) family. Sequential activation of caspases plays a central role in the execution-phase of cell apoptosis. Caspases exist as inactive proenzymes which undergo proteolytic processing at conserved aspartic residues 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.

## References

Mei, Y., et al. Mol. Cell 37(5):668-678(2010) Sohn, E.J., et al. Cancer Res. 70(3):1154-1163(2010) Karamitopoulou, E., et al. Pathology 42(1):37-42(2010) Wang, W., et al. Xi Bao Yu Fen Zi Mian Yi Xue Za Zhi 25(11):1034-1035(2009)

## Images

All lanes : Anti-CASP3(Asp175) Antibody at 1:1000-1:2000 dilution  
Lane 1: Jurkat whole cell lysate  
Lane 2: Rat heart



tissue lysate Lysates/proteins at 20 µg per lane.  
Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase  
conjugated at 1/10000 dilution. Predicted band size : 32  
kDa Blocking/Dilution buffer: 5% NFDM/TBST.

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