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CASP3 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP11324B

Product Information

Application	WB, IHC-P, FC, E
Primary Accession	P42574
Other Accession	P55213, Q8MJC3, P70677, Q2PFV2, NP_004337.2, NP_116786.1
Reactivity	Mouse, Rat, Human
Predicted	Monkey, Mouse, Rabbit, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB14883
Calculated MW	31608
Antigen Region	219-248

Additional Information

Gene ID	836
Other Names	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
Target/Specificity	This CASP3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 219-248 amino acids from the C-terminal region of human CASP3.
Dilution	WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	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.
Precautions	CASP3 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CASP3

Synonyms	CPP32 {ECO:0000303|PubMed:7983002}
Function	Thiol protease that acts as a major effector caspase involved in the execution phase of apoptosis (PubMed:18723680, PubMed:20566630, PubMed:23650375, PubMed:35338844, PubMed:35446120, PubMed:7596430). Following cleavage and activation by initiator caspases (CASP8, CASP9 and/or CASP10), mediates execution of apoptosis by catalyzing cleavage of many proteins (PubMed:18723680, PubMed:20566630, PubMed:23650375, PubMed:7596430). At the onset of apoptosis, it proteolytically cleaves poly(ADP-ribose) polymerase PARP1 at a '216-Asp-|-Gly-217' bond (PubMed:10497198, PubMed:16374543, PubMed:7596430, PubMed:7774019). 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:7596430). Cleaves and inactivates interleukin-18 (IL18) (PubMed:37993714, PubMed:9334240). Involved in the cleavage of huntingtin (PubMed:8696339). Triggers cell adhesion in sympathetic neurons through RET cleavage (PubMed:21357690). Also involved in axon pruning during brain development (By similarity). Cleaves DSG2 in response to apoptosis resulting in a loss of full length DSG2 at desmosome cell junctions and subsequent loss of cell-cell adhesion (PubMed:17559062). Also cleaves JUP in response to apoptosis (PubMed:17559062). Cleaves and inhibits serine/threonine-protein kinase AKT1 in response to oxidative stress (PubMed:23152800). 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:30878284). Also involved in pyroptosis by mediating cleavage and activation of gasdermin-E (GSDME) (PubMed:35338844, PubMed:35446120). Cleaves XRCC4 and phospholipid scramblase proteins XKR4, XKR8 and XKR9, leading to promote phosphatidylserine exposure on apoptotic cell surface (PubMed:23845944, PubMed:33725486). Cleaves BIRC6 following inhibition of BIRC6-caspase binding by DIABLO/SMAC (PubMed:36758104, PubMed:36758106).
Cellular Location	Cytoplasm.
Tissue Location	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.

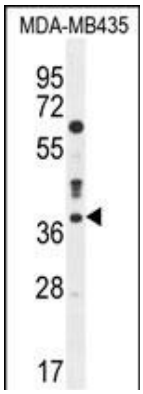
Background

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. [provided by RefSeq].

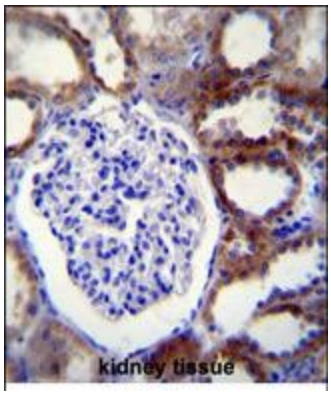
References

Wurstle, M.L., et al. J. Biol. Chem. 285(43):33209-33218(2010)
Srikanth, C.V., et al. Science 330(6002):390-393(2010)
Burke, S.P., et al. J. Biol. Chem. 285(39):30061-30068(2010)
Chen, W., et al. Xi Bao Yu Fen Zi Mian Yi Xue Za Zhi 26(7):673-674(2010)
Bellini, M.F., et al. Anticancer Res. 30(7):2845-2849(2010)

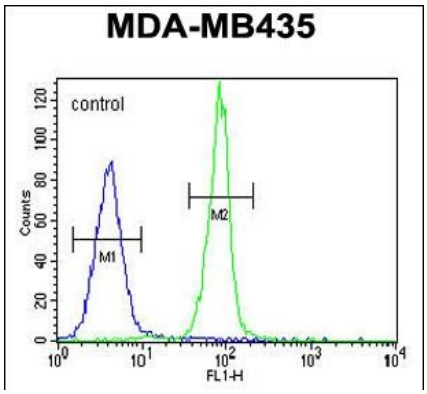
Images



CASP3 Antibody (C-term) (Cat. #AP11324b) western blot analysis in MDA-MB435 cell line lysates (35ug/lane).This demonstrates the CASP3 antibody detected the CASP3 protein (arrow).



CASP3 Antibody (C-term) (Cat. #AP11324b)immunohistochemistry analysis in formalin fixed and paraffin embedded human kidney tissue followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of CASP3 Antibody (C-term) for immunohistochemistry. Clinical relevance has not been evaluated.



CASP3 Antibody (C-term) (Cat. #AP11324b) flow cytometric analysis of MDA-MB435 cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Citations

- Effects of secreted frizzled-related protein 1 on proliferation, migration, invasion, and apoptosis of colorectal cancer cells.

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