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Phospho-mouse CASP3(S12) Antibody

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP3778b

Product Information

Application	DB, E
Primary Accession	P70677
Other Accession	NP_033940.1
Reactivity	Mouse
Predicted	Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB39711
Calculated MW	31475

Additional Information

Gene ID	12367
Other Names	Caspase-3, CASP-3, Apopain, Cysteine protease CPP32, CPP-32, LICE, Protein Yama, SREBP cleavage activity 1, SCA-1, Caspase-3 subunit p17, Caspase-3 subunit p12, Casp3, Cpp32
Target/Specificity	This mouse CASP3 Antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding S12 of mouse CASP3.
Dilution	DB~~1:500 E~~Use at an assay dependent concentration.
Format	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.
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	Phospho-mouse CASP3(S12) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Casp3
Synonyms	Cpp32 {ECO:0000303|PubMed:8934524}

Function	Thiol protease that acts as a major effector caspase involved in the execution phase of apoptosis (PubMed:16469926, PubMed:8934524). Following cleavage and activation by initiator caspases (CASP8, CASP9 and/or CASP10), mediates execution of apoptosis by catalyzing cleavage of many proteins (PubMed:16469926, PubMed:8934524). At the onset of apoptosis, it proteolytically cleaves poly(ADP-ribose) polymerase PARP1 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 (CASP6, CASP7 and CASP9, respectively). Cleaves and inactivates interleukin-18 (IL18) (By similarity). Triggers cell adhesion in sympathetic neurons through RET cleavage (By similarity). Also involved in axon pruning during brain development (PubMed:24478350). 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 (By similarity). Also cleaves JUP in response to apoptosis (By similarity). Cleaves IL-1 beta between an Asp and an Ala, releasing the mature cytokine which is involved in a variety of inflammatory processes (By similarity). Cleaves and inhibits serine/threonine-protein kinase AKT1 in response to oxidative stress (PubMed:12124386). 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) (By similarity). Cleaves XRCC4 and phospholipid scramblase proteins XKR4, XKR8 and XKR9, leading to promote phosphatidylserine exposure on apoptotic cell surface (PubMed:25231987, PubMed:33725486). Cleaves BIRC6 following inhibition of BIRC6-caspase binding by DIABLO/SMAC (By similarity).
Cellular Location	Cytoplasm {ECO:0000250|UniProtKB:P42574}.
Tissue Location	Highest expression in spleen, lung, liver, kidney and heart (PubMed:9038361). Lower expression in brain, skeletal muscle and testis (PubMed:9038361).

Background

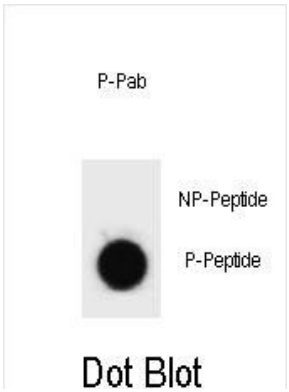
This gene encodes a protein which is a member of the cysteine-aspartic acid protease (caspase) family. Sequential activation of caspases plays a central role in the execution-phase of cell apoptosis. Caspases exist as inactive proenzymes which undergo proteolytic processing at conserved aspartic residues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

Srikanth, C.V., et al. Science 330(6002):390-393(2010)
Li, F., et al. Cell Stem Cell 7(4):508-520(2010)
Wang, L., et al. J. Neurosci. 30(39):13201-13210(2010)
Gascon, E., et al. J. Neurosci. 30(37):12414-12423(2010)
Bohsali, A., et al. BMC Microbiol. 10, 237 (2010) :

Images

Dot blot analysis of Phospho-mouse CASP3-S12 Antibody



Phospho-specific Pab (Cat. #AP3778b) on nitrocellulose membrane. 50ng of Phospho-peptide or Non Phospho-peptide per dot were adsorbed. Antibody working concentrations are 0.6ug per ml.

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