10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Caspase 7 Rabbit mAb

Catalog # AP75196

Product Information

Application	WB, IP
Primary Accession	P97864
Reactivity	Rat, Mouse
Host	Rabbit
Clonality	Monoclonal Antibody
Isotype	IgG
Conjugate	Unconjugated
Purification	Affinity Purified
Calculated MW	34061

Additional Information

Gene ID	12369
Other Names	Casp7
Dilution	WB~~1:1000-1:5000 IP~~1:50-1:100
Format	Liquid in 50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% sodium azide and 0.05% BSA.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

Protein Information

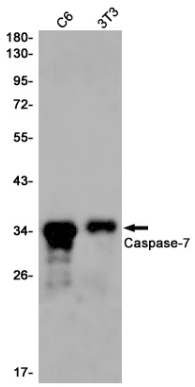
Name	Casp7 {ECO:0000303|PubMed:9070923, ECO:0000312|MGI:MGI:109383}
Function	Thiol protease involved in different programmed cell death processes, such as apoptosis, pyroptosis or granzyme-mediated programmed cell death, by proteolytically cleaving target proteins (PubMed:16469926, PubMed:19168786). Has a marked preference for Asp- Glu-Val-Asp (DEVD) consensus sequences, with some plasticity for alternate non-canonical sequences (PubMed:25231987). Its involvement in the different programmed cell death processes is probably determined by upstream proteases that activate CASP7 (PubMed:18667412, PubMed:35705808). Acts as an effector caspase involved in the execution phase of apoptosis: following cleavage and activation by initiator caspases (CASP8 and/or CASP9), mediates execution of apoptosis by catalyzing cleavage of proteins, such as CLSPN, PARP1, PTGES3 and YY1 (PubMed:16469926). Compared to CASP3, acts as a minor executioner caspase and cleaves a limited set of target proteins (PubMed:16469926). Acts as a key regulator of the inflammatory response in response to bacterial infection by catalyzing cleavage and activation of the

	sphingomyelin phosphodiesterase SMPD1 in the extracellular milieu, thereby promoting membrane repair (PubMed:35705808). Regulates pyroptosis in intestinal epithelial cells: cleaved and activated by CASP1 in response to S.typhimurium infection, promoting its secretion to the extracellular milieu, where it catalyzes activation of SMPD1, generating ceramides that repair membranes and counteract the action of gasdermin-D (GSDMD) pores (PubMed:22807671, PubMed:35705808). Regulates granzyme-mediated programmed cell death in hepatocytes: cleaved and activated by granzyme B (GZMB) in response to bacterial infection, promoting its secretion to the extracellular milieu, where it catalyzes activation of SMPD1, generating ceramides that repair membranes and counteract the action of perforin (PRF1) pores (PubMed:35705808). Following cleavage by CASP1 in response to inflammasome activation, catalyzes processing and inactivation of PARP1, alleviating the transcription repressor activity of PARP1 (PubMed:22464733). 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). Cleaves and activates sterol regulatory element binding proteins (SREBPs) (By similarity). Cleaves phospholipid scramblase proteins XKR4, XKR8 and XKR9 (PubMed:25231987). Cleaves BIRC6 following inhibition of BIRC6-caspase binding by DIABLO/SMAC (By similarity).
Cellular Location	Cytoplasm, cytosol {ECO:0000250|UniProtKB:P55210}. Nucleus {ECO:0000250|UniProtKB:P55210} Secreted, extracellular space Note=Following cleavage and activation by CASP1 or granzyme B (GZMB), secreted into the extracellular milieu by passing through the gasdermin-D (GSDMD) pores or perforin (PRF1) pore, respectively
Tissue Location	Highly expressed in heart, lung, liver and kidney. Low levels in spleen, skeletal muscle and testis. No expression in the brain.

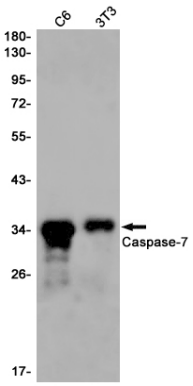
Background

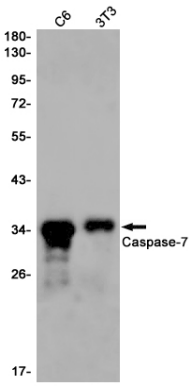
Involved in the activation cascade of caspases responsible for apoptosis execution. Cleaves and activates sterol regulatory element binding proteins (SREBPs). Overexpression promotes programmed cell death .

Images



Western blot analysis of Caspase7 in C6, 3T3 lysates using Caspase 7 antibody.





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