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Caspase-3 (CASP3) Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7563C

Specification

Caspase-3 (CASP3) Antibody (Center) - Product Information

Application	**WB, IHC-P, FC,E**
Primary Accession	P42574
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Region	**60-90**

Caspase-3 (CASP3) Antibody (Center) - 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 Caspase-3 (CASP3) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 60-90 amino acids from the Central region of human Caspase-3 (CASP3).

Dilution
WB~~1:1000
IHC-P~~1:10~50
FC~~1:10~50

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
Caspase-3 (CASP3) Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Caspase-3 (CASP3) Antibody (Center) - 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:7596430, PubMed:18723680, PubMed:20566630, PubMed:23650375, PubMed:35338844, PubMed:35446120). Following cleavage and activation by initiator caspases (CASP8, CASP9 and/or CASP10), mediates execution of apoptosis by catalyzing cleavage of many proteins (PubMed:7596430, PubMed:18723680, PubMed:20566630, PubMed:23650375). At the onset of apoptosis, it proteolytically cleaves poly(ADP-ribose) polymerase PARP1 at a '216-Asp-|-Gly-217' bond (PubMed:7774019, PubMed:7596430, PubMed:10497198, PubMed:16374543). 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 (PubMed:7596430). Involved in the cleavage of huntingtin (PubMed:8696339). Triggers cell adhesion in sympathetic neurons through RET cleavage (PubMed:21357690). 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:35446120, PubMed:35338844). Cleaves XRCC4 and phospholipid scramblase proteins XKR4, XKR8 and XKR9, leading to promote phosphatidylserine exposure on apoptotic cell surface (PubMed:23845944, PubMed:33725486).

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.

Caspase-3 (CASP3) Antibody (Center) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Caspase-3 (CASP3) Antibody (Center) - Images

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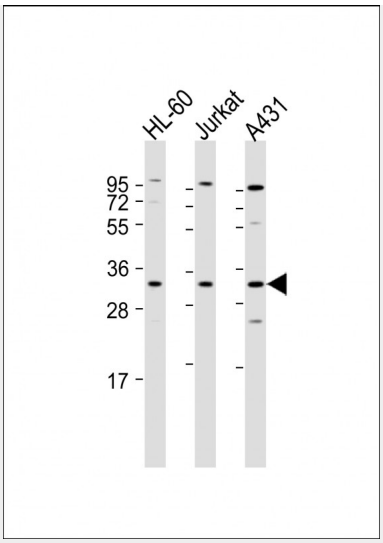
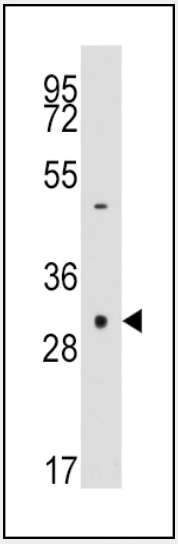


All lanes : Anti-CASP3 Antibody (Center) at 1:2000 dilution Lane 1: HL-60 whole cell lysate Lane 2: Jurkat whole cell lysate Lane 3: A431 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 32 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Western blot analysis of anti-CASP3 Pab (Cat.#AP7563c) in NCI-H460 cell line lysates (35ug/lane).CASP3 (arrow) was detected using the purified Pab.

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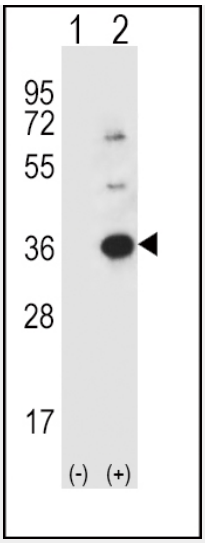
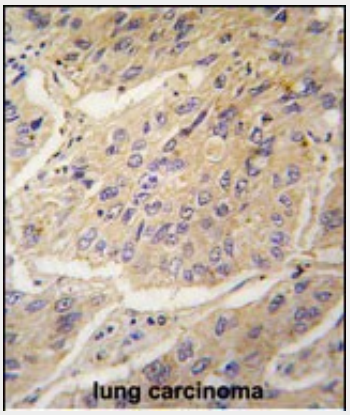
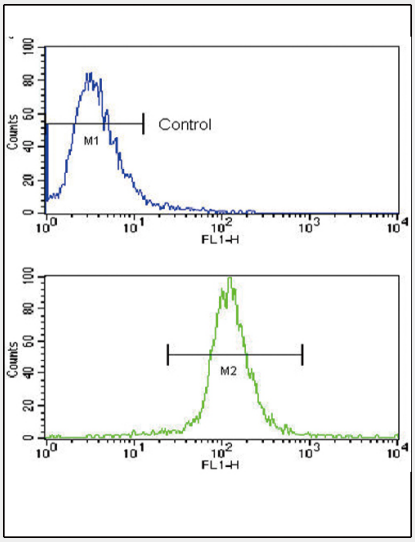


Western blot analysis of CASP3 (arrow) using rabbit polyclonal CASP3 Antibody (Center) (Cat.#AP7563c). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the CASP3 gene.



Formalin-fixed and paraffin-embedded human lung carcinoma tissue reacted with CASP3 antibody (Center) (Cat.#AP7563c), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



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Flow cytometric analysis of NCI-H460 cells using Caspase-3 (CASP3) Antibody (Center)(bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Caspase-3 (CASP3) Antibody (Center) - Background

CASP3 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.

Caspase-3 (CASP3) Antibody (Center) - References

Wright,M.H.,Biochem. Biophys. Res. Commun. 369 (2), 478-484 (2008) Brown,E.T.,Radiat. Res. 169 (5), 595-601 (2008) Mustafa,T.,Virchows Arch. 452 (4), 449-456 (2008)

Caspase-3 (CASP3) Antibody (Center) - Citations

- LncRNA HRCEG, regulated by HDAC1, inhibits cells proliferation and epithelial-mesenchymal-transition in gastric cancer
- Senkyunolide H protects against MPP-induced apoptosis via the ROS-mediated mitogen-activated protein kinase pathway in PC12 cells.
- EXPRESS: Gremlin1 blocks vascular endothelial growth factor signalling in the pulmonary microvascular endothelium
- Atorvastatin ameliorates early brain injury through inhibition of apoptosis and ER stress in a rat model of subarachnoid hemorrhage.
- Nucleostemin dysregulation contributes to ischemic vulnerability of diabetic hearts: Role of ribosomal biogenesis.
- Combination of metformin and sorafenib suppresses proliferation and induces autophagy of hepatocellular carcinoma via targeting the mTOR pathway.
- Expression of pituitary tumor-transforming 2 in human glioblastoma cell lines and its role in glioblastoma tumorigenesis.
- Ubenimex inhibits cell proliferation, migration and invasion in renal cell carcinoma: The effect is autophagy-associated.
- Combination of Rad001 (everolimus) and propachlor synergistically induces apoptosis through enhanced autophagy in prostate cancer cells.