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CASP3(Asp175) Antibody
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP4985D

Specification

CASP3(Asp175) Antibody - Product Information

Application	**WB, IHC-P, FC,E**
Primary Accession	P42574
Other Accession	NP_004337
Reactivity	**Human, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Region	**149-179**

CASP3(Asp175) Antibody - 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(Asp175) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 149-179 amino acids from human CASP3(Asp175).

Dilution
WB~~1:1000-1:2000
IHC-P~~1:50~100
FC~~1:10~50

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
CASP3(Asp175) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

CASP3(Asp175) Antibody - 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.

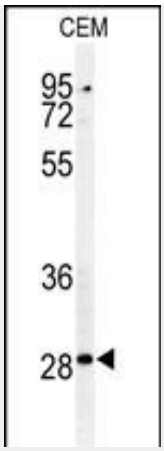
CASP3(Asp175) Antibody - Protocols

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

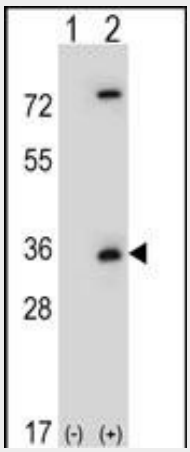
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

CASP3(Asp175) Antibody - Images

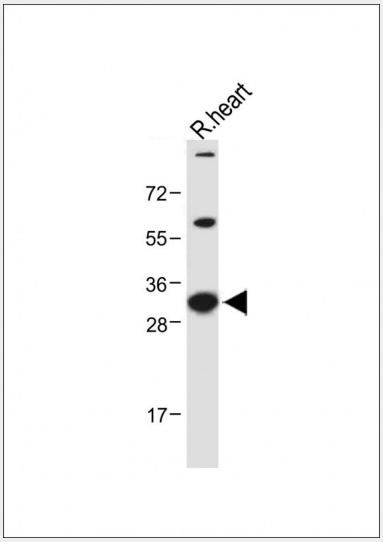
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Western blot analysis of CASP3 (Asp175) Antibody (Cat. #AP4985d) in CEM cell line lysates (35ug/lane). CASP3 (arrow) was detected using the purified Pab.

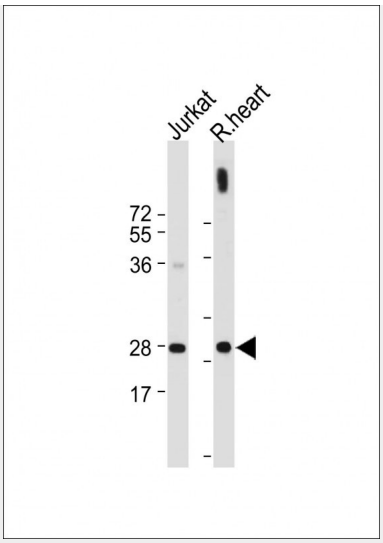


Western blot analysis of CASP3 (arrow) using rabbit polyclonal CASP3 Antibody (Cat. #AP4985d). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the CASP3 gene.

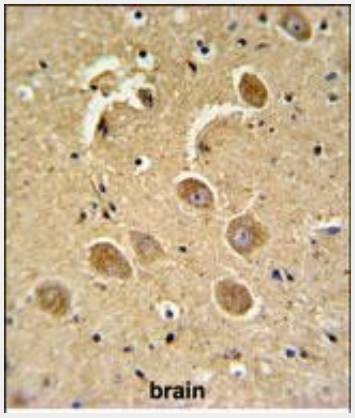


Anti-CASP3(Asp175) Antibody at 1:1000 dilution + Rat heart whole tissue lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 35 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

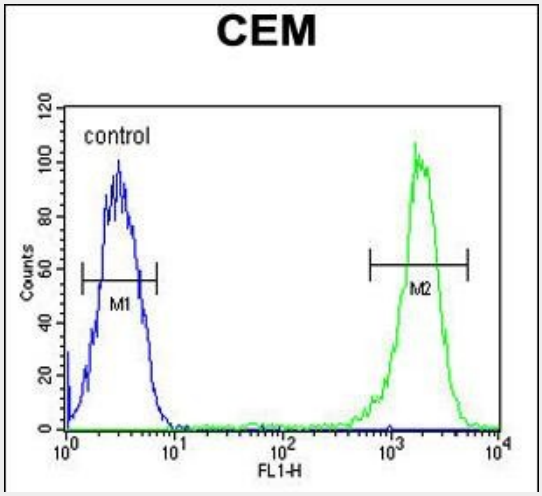
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All lanes : Anti-CASP3(Asp175) Antibody at 1:1000-1:2000 dilution Lane 1: Jurkat whole cell lysate Lane 2: Rat heart tissue lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 32 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



CASP3(Asp175) Antibody (Cat. #AP4985d) IHC analysis in formalin fixed and paraffin embedded human brain tissue followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of the CASP3(Asp175) Antibody for immunohistochemistry. Clinical relevance has not been evaluated.



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CASP3(Asp175) Antibody (Cat. #AP4985d) flow cytometric analysis of CEM cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

CASP3(Asp175) Antibody - 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.

CASP3(Asp175) Antibody - 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)