

CASP3 Antibody

Mouse Monoclonal Antibody (Mab) Catalog # AM2239b

Product Information

ApplicationWB, EPrimary AccessionP42574ReactivityHumanHostMouseClonalityMonoclonal

Isotype IgG1

Clone Names 1262CT521.280.101

Calculated MW 31608

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 Purified His-tagged CASP3 protein was used to produced this monoclonal

antibody.

Dilution WB~~1:2000 E~~Use at an assay dependent concentration.

Format Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide.

This antibody is purified through a protein G column, 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 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: <u>7596430</u>). 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:<u>7596430</u>, PubMed:<u>7774019</u>). 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:<u>37993714</u>, PubMed:<u>9334240</u>). Involved in the cleavage of huntingtin (PubMed:<u>8696339</u>). Triggers cell adhesion in sympathetic neurons through RET cleavage (PubMed:<u>21357690</u>). Cleaves and inhibits serine/threonine-protein kinase AKT1 in response to oxidative stress (PubMed:<u>23152800</u>). 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

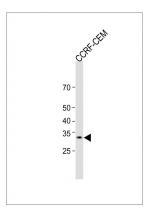
Involved in the activation cascade of caspases responsible for apoptosis execution. At the onset of apoptosis it proteolytically cleaves poly(ADP-ribose) polymerase (PARP) at a '216-Asp-|-Gly-217' bond. Cleaves and activates sterol regulatory element binding proteins (SREBPs) between the basic helix-loop-helix leucine zipper domain and the membrane attachment domain. Cleaves and activates caspase-6, -7 and -9. Involved in the cleavage of huntingtin. Triggers cell adhesion in sympathetic neurons through RET cleavage.

References

Choudhary C., et al. Science 325:834-840(2009). Fernandes-Alnemri T., et al. J. Biol. Chem. 269:30761-30764(1994). Tewari M., et al. Cell 81:801-809(1995). Pelletier M., et al. Biochem. Biophys. Res. Commun. 316:93-99(2004). Ota T., et al. Nat. Genet. 36:40-45(2004).

Images

All lanes: Anti-CASP3 Antibody at 1:1000 dilution + CCRF-CEM whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Mouse IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/15000 dilution. Observed band size: 32KDa Blocking/Dilution buffer: 5% NFDM/TBST.



Citations

• Protective Effects and Mechanism of Meretrix meretrix Oligopeptides against Nonalcoholic Fatty Liver Disease.

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