

Anti-Caspase 3 Antibody
Catalog # ABO11880**Specification**

Anti-Caspase 3 Antibody - Product Information

Application	WB, IHC-P
Primary Accession	P42574
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

Description

Rabbit IgG polyclonal antibody for Caspase-3(CASP3) detection. Tested with WB, IHC-P in Human;Mouse;Rat.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-Caspase 3 Antibody - Additional Information

Gene ID 836

Other Names

Caspase-3, CASP-3, 3.4.22.56, Apopain, Cysteine protease CPP32, CPP-32, Protein Yama, SREBP cleavage activity 1, SCA-1, Caspase-3 subunit p17, Caspase-3 subunit p12, CASP3, CPP32

Calculated MW

31608 MW KDa

Application Details

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Mouse, Rat, By Heat
Western blot, 0.1-0.5 µg/ml, Human, Rat

Subcellular Localization

Cytoplasm.

Tissue Specificity

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.

Protein Name

Caspase-3

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg Na₃.

Immunogen

E.coli-derived human Caspase 3 recombinant protein (Position: T67-D175). Human Caspase 3

shares 86% and 90% amino acid (aa) sequences identity with mouse and rat Caspase 3, respectively.

Purification

Immunogen affinity purified.

Cross Reactivity

No cross reactivity with other proteins

Storage

At -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for a longer time. Avoid repeated freezing and thawing.

Sequence Similarities

Belongs to the peptidase C14A family.

Anti-Caspase 3 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: 18723680, PubMed: 20566630, PubMed: 23650375, PubMed: 35338844, PubMed: 35446120, PubMed: 7596430). 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-I-Gly-217' bond (PubMed: 10497198, PubMed: 16374543, PubMed: 7596430, PubMed: 7774019). 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: 37993714, PubMed: 9334240). 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: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

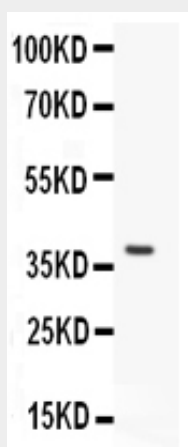
Highly expressed in lung, spleen, heart, liver and kidney. Moderate levels in brain and skeletal muscle, and low in testis. Also found in many cell lines, highest expression in cells of the immune system.

Anti-Caspase 3 Antibody - Protocols

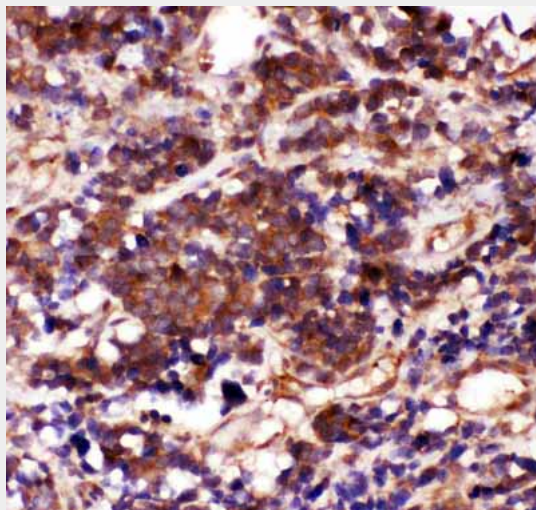
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

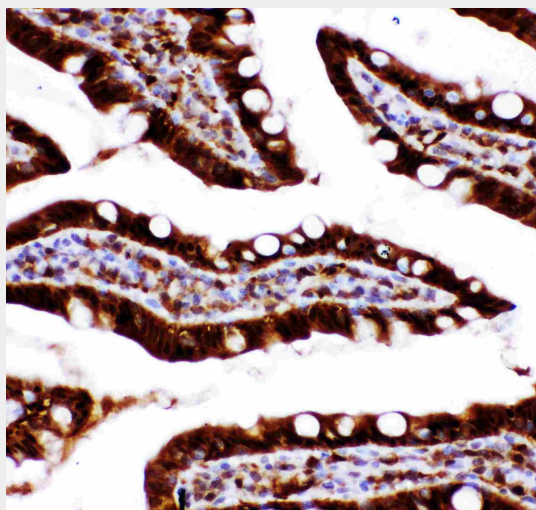
Anti-Caspase 3 Antibody - Images



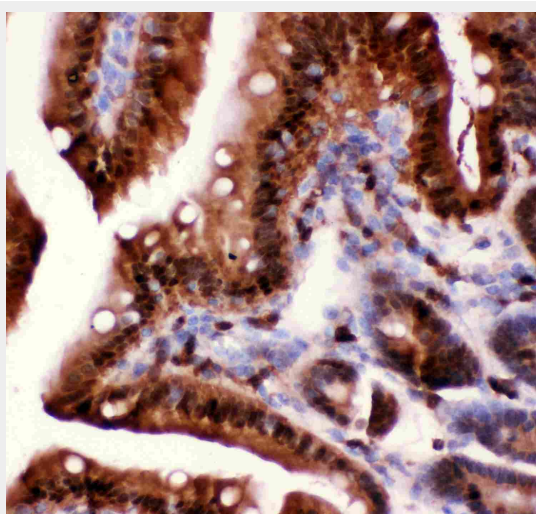
Anti- Caspase 3 antibody, ABO11880, Western blotting All lanes: Anti Caspase 3 (ABO11880) at 0.5ug/ml WB: Recombinant Human Caspase 3 Protein 0.5ng Predicted bind size: 39KD Observed bind size: 39KD



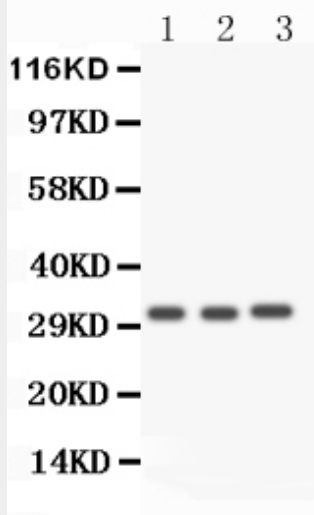
Anti-Caspase 3 antibody, ABO11880, IHC(P)IHC(P): Human Lung Cancer Tissue



Anti-Caspase 3 antibody, ABO11880, IHC(P)IHC(P): Rat Intestine Tissue



Anti-Caspase 3 antibody, ABO11880, IHC(P)IHC(P): Mouse Intestine Tissue



Anti- Caspase 3 antibody, ABO11880, Western blottingAll lanes: Anti Caspase 3 (ABO11880) at 0.5ug/mlLane 1: Rat Liver Tissue Lysate at 50ugLane 2: Rat Thymus Tissue Lysate at 50ugLane 3: SMMC Whole Cell Lysate at 40ugPredicted bind size: 31KDObserved bind size: 31KD

Anti-Caspase 3 Antibody - Background

Caspase 3 is a caspase protein which interacts with Survivin, XIAP, CFLAR, Caspase 8, HCLS1, Deleted in Colorectal Cancer, TRAF3 and GroEL. This gene which is located on 4q35 encodes a protein that 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 that undergo proteolytic processing at conserved aspartic residues to produce two subunits, large and small, that dimerize to form the active enzyme. 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. And the caspase-3 activation in heart failure sequentially cleaves SRF and generates a truncated SRF that appears to function as a dominant-negative transcription factor. Additionally, the caspase-3 influence on bone mineral density should be considered in any in vivo application of caspase-3 inhibitors to the treatment of human disease. In erythroid precursors undergoing terminal differentiation, Hsp70 prevents active CASP3 from cleaving GATA1 and inducing apoptosis.