abcam

ab179517

Anti-Caspase-3 p12 antibody [EPR16888]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR16888
Purification technique	Affinity purification Protein A
Specificity	This antibody recognizes both pro Caspase-3 and Caspase-3 p12.
Concentration	2.475 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/150
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.

Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/2000
Notes	-

Species	Rat
Dilution info	1/2000
Notes	-

Species	Human
Dilution info	1/2000
Notes	-

Target data

See full target information CASP3

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-|-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 DSG2 in response to apoptosis resulting in a loss of full length DSG2 at desmosome cell junctions and subsequent loss of cell-cell adhesion (PubMed:17559062). Also cleaves JUP in response to apoptosis (PubMed:17559062). 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).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

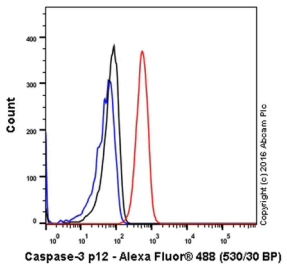
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

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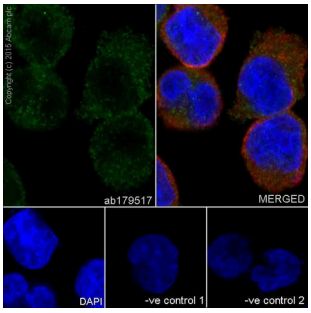
11 product images



Flow Cytometry (Intracellular) - Anti-Caspase-3 p12 antibody [EPR16888] (ab179517)

Caspase-3 p12 Flow Cytometry (Intracellular) staining using rabbit Anti-Caspase-3 p12 antibody

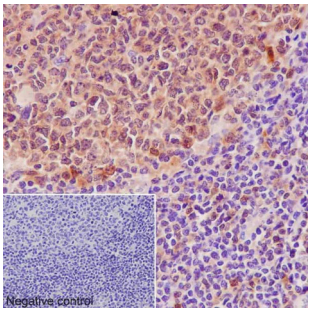
Intracellular Flow Cytometry analysis of K562 (human chronic myelogenous leukemia) with purified ab179517 at 1/240 dilution (Red). The secondary antibody was Goat anti rabbit IgG (Alexa Fluor® 488) at 1/2000 dilution. A Rabbit monoclonal IgG (Black) was used as the isotype control and cells without incubation with primary antibody and secondary antibody (Blue) were used as unlabeled control.



Immunocytochemistry/ Immunofluorescence - Anti-Caspase-3 p12 antibody [EPR16888] (ab179517)

Caspase-3 p12 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Caspase-3 p12 antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized K562 (Human chronic myelogenous leukemia cells from bone marrow) cells labeling Caspase-3 p12 with ab179517 at 1/150 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/400 dilution (green). Confocal image showing cytoplasmic staining on K562 cell line. The nuclear counter stain is DAPI (blue). Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/500 dilution and ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution (red).
The negative controls are as follows;
-ve control 1: ab179517 at 1/150 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution.
-ve control 2: ab7291 (anti-Tubulin mouse mAb) at 1/500 dilution followed by ab150077 (Alexa Fluor®488 Goat Anti-Rabbit IgG H&L) at 1/400 dilution.

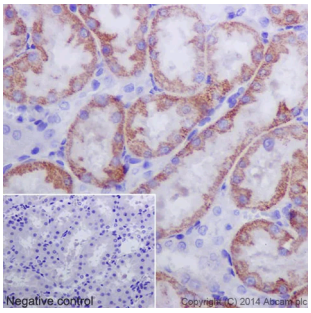


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Caspase-3 p12 antibody [EPR16888] (ab179517)

Caspase-3 p12 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Caspase-3 p12 antibody

Immunohistochemical analysis of paraffin-embedded Human tonsil tissue labeling Caspase-3 p12 with ab179517 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) secondary antibody (ab97051) at 1/500 dilution. Cytoplasmic and nuclear staining in germinal center, weaker staining in the mantle zone (MZ) lymphocytes is observed. Counter stained with Hematoxylin.
Negative control: Using PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) secondary antibody (ab97051) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



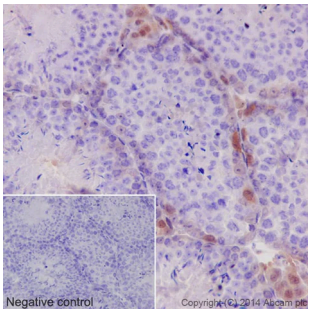
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Caspase-3 p12 antibody [EPR16888] (ab179517)

Caspase-3 p12 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Caspase-3 p12 antibody

Immunohistochemical analysis of paraffin-embedded Rat kidney tissue labeling Caspase-3 p12 with ab179517 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) secondary antibody (ab97051) at 1/500 dilution. Granular staining on epithelium from kidney is observed. Counter stained with Hematoxylin.
Negative control: Using PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) secondary antibody (ab97051) at 1/500 dilution.

[1] Afshin Samali, Boris Zhivotovsky, Dean P. Jonesa, Sten Orreniusa. Detection of pro-caspase-3 in cytosol and mitochondria of various tissues (rat). FEBS Letters 431 (1998) 167-169.

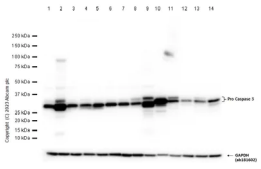
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Caspase-3 p12 antibody [EPR16888] (ab179517)

Immunohistochemical analysis of paraffin-embedded Mouse testis tissue labeling Caspase-3 p12 with ab179517 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) secondary antibody (ab97051) at 1/500 dilution. Nuclear and cytoplasmic staining on leydig cells and spermatogonial cells is observed. Counter stained with Hematoxylin.
Negative control: Using PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) secondary antibody (ab97051) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Western blot - Anti-Caspase-3 p12 antibody [EPR16888] (ab179517)

Blocking and diluting buffer and concentration: 5% NFDM/TBST. ab181602 was used as loading control. Bands between 27-32kDa represent cleavage of the procaspase at D9 and D28, respectively (PMID: 14567691)
All lanes:
Western blot - Anti-Caspase-3 p12 antibody [EPR16888] (ab179517) at 1/1000 dilution

Lane 1:
Mouse Alzheimer's disease brain tissue lysate at 20 µg

Lane 2:
Mouse brain cancer tissue lysate at 20 µg

Lane 3:
Mouse hippocampus tissue lysate at 20 µg

Lane 4:
Mouse spinal cord tissue lysate at 20 µg

Lane 5:
Mouse cerebellum tissue lysate at 20 µg

Lane 6:
Mouse cerebral cortex tissue lysate at 20 µg

Lane 7:
Mouse hypothalamus tissue lysate at 20 µg

Lane 8:
Mouse heart tissue lysate at 20 µg

Lane 9:
Mouse liver tissue lysate at 20 µg

Lane 10:
Human brain tissue lysate at 20 µg

Lane 11:
Human liver tissue lysate at 20 µg

Lane 12:
Human hypothalamus tissue lysate at 20 µg

Lane 13:
Human heart tissue lysate at 20 µg

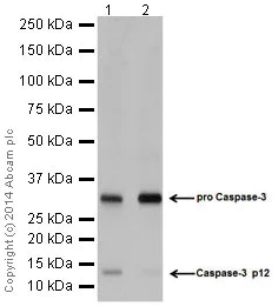
Lane 14:
Human cerebellum tissue at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Predicted band size: 32 kDa

Exposure time: 7s



Western blot - Anti-Caspase-3 p12 antibody [EPR16888] (ab179517)

Blocking/Dilution buffer: 5% NFDM/TBST.

32 and 29 kDa bands represent procaspase-3; 12-kDa band is Caspase-3 subunit p12.

All lanes:
Western blot - Anti-Caspase-3 p12 antibody [EPR16888] (ab179517) at 1/1000 dilution

Lane 1:
NIH/3T3 (Mouse embyro fibroblast cells) treated with staurosporine 1uM for 4h at 10 µg

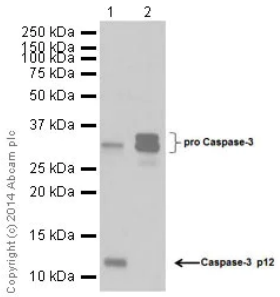
Lane 2:
Untreated NIH/3T3 whole cell lysates at 10 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L),Peroxidase conjugated at 1/1000 dilution

Predicted band size: 32 kDa

Observed band size: 12 kDa, 29 kDa, 32 kDa



Western blot - Anti-Caspase-3 p12 antibody [EPR16888] (ab179517)

Blocking/Dilution buffer: 5% NFDM/TBST.

32 and 29 kDa bands represent procaspase-3; 12-kDa band is Caspase-3 subunit p12.

All lanes:
Western blot - Anti-Caspase-3 p12 antibody [EPR16888] (ab179517) at 1/1000 dilution

Lane 1:
HeLa (Human epithelial cells from cervix adenocarcinoma) whole cell lysates treated with staurosporine 1uM for 4hr at 10 µg

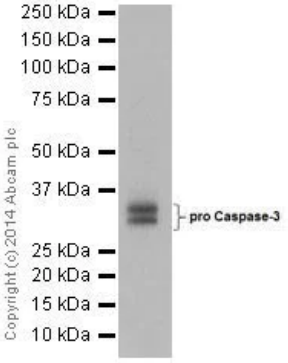
Lane 2:
HeLa untreated whole cell lysates at 10 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L),Peroxidase conjugated at 1/1000 dilution

Predicted band size: 32 kDa

Observed band size: 12 kDa, 29 kDa, 32 kDa



Western blot - Anti-Caspase-3 p12 antibody [EPR16888] (ab179517)

Blocking/Dilution buffer: 5% NFDM/TBST.

32 and 29 kDa bands represent procaspase-3.

All lanes:
Western blot - Anti-Caspase-3 p12 antibody [EPR16888] (ab179517) at 1/5000 dilution

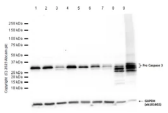
All lanes:
Mouse spleen lysates at 10 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L),Peroxidase conjugated at 1/1000 dilution

Predicted band size: 32 kDa

Observed band size: 29 kDa, 32 kDa



Western blot - Anti-Caspase-3 p12 antibody [EPR16888] (ab179517)

Blocking and diluting buffer and concentration: 5% NFDM/TBST. ab181602 was used as loading control. Bands between 27-32kDa represent cleavage of the procaspase at D9 and D28, respectively (PMID: 14567691)
All lanes:
Western blot - Anti-Caspase-3 p12 antibody [EPR16888] (ab179517) at 1/1000 dilution

Lane 1:
Rat brain tissue lysate at 20 µg

Lane 2:

Rat hippocampus tissue lysate at 20 µg

Lane 3:
Rat spinal cord tissue lysate at 20 µg

Lane 4:
Rat cerebellum tissue lysate at 20 µg

Lane 5:
Rat cerebral cortex tissue at 20 µg

Lane 6:
Rat hypothalamus tissue at 20 µg

Lane 7:
Rat heart tissue lysate at 20 µg

Lane 8:
Rat liver tissue lysate at 20 µg

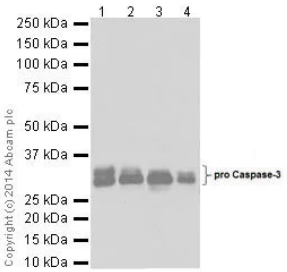
Lane 9:
PC-12 (Rat adrenal gland pheochromocytoma) whole cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Predicted band size: 32 kDa

Exposure time: 5s



Western blot - Anti-Caspase-3 p12 antibody [EPR16888] (ab179517)

Blocking/Dilution buffer: 5% NFDM/TBST.

32 and 29 kDa bands represent procaspase-3.

All lanes:
Western blot - Anti-Caspase-3 p12 antibody [EPR16888] (ab179517) at 1/1000 dilution

Lane 1:
Mouse brain lysates at 10 µg

Lane 2:
Mouse heart lysates at 10 µg

Lane 3:
Rat brain lysates at 10 µg

Lane 4:
Rat heart lysates at 10 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L),Peroxidase conjugated at 1/1000 dilution

Predicted band size: 32 kDa

Observed band size: 29 kDa, 32 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.