abcam

ab182216

Anti-Protein CASP antibody [EPR18806]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 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	EPR18806
Purification technique	Affinity purification Protein A
Concentration	0.584 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/40
Notes	-

Expected

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

WB

Tested

Species	Mouse
Dilution info	1/2000
Notes	-

Species	Rat
Dilution info	1/2000
Notes	-

Species	Human
Dilution info	1/2000
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/100
Notes	*ab182216 binds weakly in ICC*

Species	Human
Dilution info	1/100
Notes	*ab182216 binds weakly in ICC*

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.

Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/120
Notes	-

Species	Human
Dilution info	1/120
Notes	-

Expected

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

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information CUX1

Function	May be involved in intra-Golgi retrograde transport.

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.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Protein CASP also known as Caspase or CASP protein is an important player in the process of apoptosis. Caspases are cysteine-aspartic proteases that exist as inactive proenzymes made of a prodomain large and small subunits. Upon activation caspases cleave substrates after aspartic acid residues. The Caspase family proteins have similar structures with molecular masses around 20 kDa to 40 kDa. CASP proteins are widely expressed across different tissues in the body. Activation can happen through intrinsic and extrinsic pathways enabling them to mediate the orderly dismantling of cellular components.
Biological function summary	Protein CASP acts as an executioner enzyme in cell death. It forms part of intricate protein complexes notably the apoptosome which includes APAF1 and cytochrome c. Once activated CASP proteins initiate a cascade of proteolytic events that lead to the dismantling of the cell. This process is tightly regulated and is essential for maintaining homeostasis and tissue development. Other caspases work upstream to activate downstream executioner caspases further highlighting the protein's role in these biological functions.

Pathways	Protein CASP plays a significant role in apoptotic signaling pathways. It is pivotal in both the extrinsic and intrinsic apoptotic pathways. In the extrinsic pathway proteins such as FADD and DISC interact with CASP-8 to trigger apoptosis. The intrinsic pathway includes the release of cytochrome c which partners with APAF1 leading to the activation of CASP-9 and subsequently other caspases. This cascade illustrates the interconnected nature of apoptotic signaling with other molecular pathways ensuring the precise regulation of cell death.
Associated diseases and disorders	Protein CASP is associated with cancer and neurodegenerative diseases. Dysregulation of CASP activity can result in either excessive cell death or survival contributing to disease pathogenesis. In cancers often CASP activity is impaired allowing cancer cells to evade apoptosis and proliferate unchecked. In neurodegenerative disorders such as Alzheimer's abnormal CASP activation contributes to neuronal loss. The interaction between CASP proteins and BCL-2 family members highlights their role in these diseases emphasizing the therapeutic targeting potential in modulating CASP activity.

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

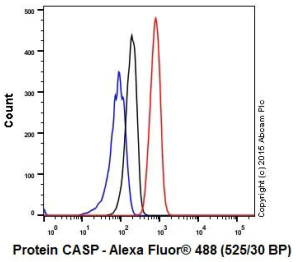
We do not recommend this combination. It is not covered by our product promise.

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.

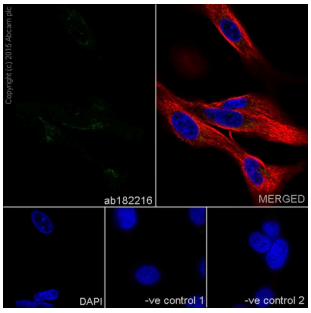
9 product images



Flow Cytometry (Intracellular) - Anti-Protein CASP antibody [EPR18806] (ab182216)

Protein CASP Flow Cytometry (Intracellular) staining using rabbit Anti-Protein CASP antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed U-87 MG (Human glioblastoma-astrocytoma epithelial cell line) cells labeling Protein CASP with ab182216 at 1/60 dilution (red) compared with a Rabbit IgG,monoclonal[EPR25A] -Isotype control (ab172730) (black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (blue). Goat anti Rabbit IgG (Alexa Fluor® 488) at 1/500 dilution was used as the secondary antibody.
Note:Cells were permeabilized with 90% methanol (in 1XPBS).



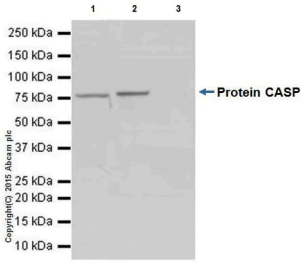
Immunocytochemistry/ Immunofluorescence - Anti-Protein CASP antibody [EPR18806] (ab182216)

Protein CASP Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Protein CASP antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed 0.1% Triton X-100 permeabilized U-87 MG (Human glioblastoma-astrocytoma epithelial cell line) cells labeling Protein CASP with ab182216 at 1/100 dilution followed by Goat Anti-Rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing specific but weak cytoplasmic staining on U-87 MG cells. The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody - Loading Control (ab7291) at 1/1000 dilution and Goat Anti-Mouse IgG (AlexaFluor®594) preadsorbed (ab150120) at 1/1000 dilution (red).
The negative controls are as follows:

-ve control 1: ab210528 at 1/100 dilution followed by ab150120 at 1/1000 dilution.

-ve control 2: ab7291 at 1/1000 dilution followed by ab150077 at 1/1000 dilution.



Immunoprecipitation - Anti-Protein CASP antibody [EPR18806] (ab182216)

Protein CASP was immunoprecipitated from 1mg of HepG2 (Human liver hepatocellular carcinoma cell line) whole cell lysate with ab182216 at 1/40 dilution. Western blot was performed from the immunoprecipitate using ab182216 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/10000 dilution.
Lane 1: HepG2 whole cell lysate, 10µg (Input).

Lane 2: ab182216 IP in HepG2 whole cell lysate.

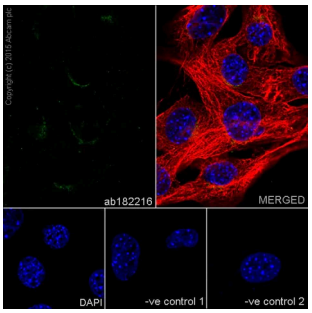
Lane 3: Rabbit IgG, [EPR25A] - Isotype Control (ab172730) instead of ab182216 in HepG2 whole cell lysate.

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 3 seconds.

All lanes:
Immunoprecipitation - Anti-Protein CASP antibody [EPR18806] (ab182216)

Predicted band size: 77 kDa



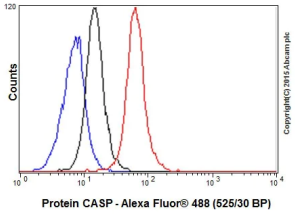
Immunocytochemistry/ Immunofluorescence - Anti-Protein CASP antibody [EPR18806] (ab182216)

Protein CASP Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Protein CASP antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed 0.1% Triton X-100 permeabilized NIH/3T3 (Mouse embryonic fibroblast cell line) cells labeling Protein CASP with ab182216 at 1/100 dilution followed by Goat Anti-Rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing specific but weak cytoplasmic staining on NIH/3T3 cells. The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody - Loading Control (ab7291) at 1/1000 dilution and Goat Anti-Mouse IgG (AlexaFluor®594) preadsorbed (ab150120) at 1/1000 dilution (red).
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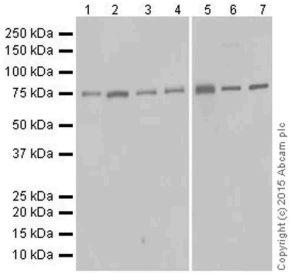
-ve control 2: ab7291 at 1/1000 dilution followed by ab150077 at 1/1000 dilution.



Flow Cytometry (Intracellular) - Anti-Protein CASP antibody [EPR18806] (ab182216)

Protein CASP Flow Cytometry (Intracellular) staining using rabbit Anti-Protein CASP antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed NIH/3T3 (Mouse embryonic fibroblast cell line) cells labeling Protein CASP with ab182216 at 1/120 dilution (red) compared with a Rabbit IgG,monoclonal [EPR25A] - Isotype control (ab172730) (black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (blue). Goat anti Rabbit IgG (Alexa Fluor® 488) at 1/500 dilution was used as the secondary antibody.



Western blot - Anti-Protein CASP antibody [EPR18806] (ab182216)

Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure time: Lane1,2,3 and 4: 3 minutes; Lane 5,6 and 7: 30 seconds.

All lanes:
Western blot - Anti-Protein CASP antibody [EPR18806] (ab182216) at 1/2000 dilution

Lane 1:
Rat testis lysate at 20 µg

Lane 2:
Rat cerebral cortex lysate at 20 µg

Lane 3:
Mouse cerebral cortex lysate at 20 µg

Lane 4:
Neuro-2a (Mouse neuroblastoma cell line) whole cell lysate at 20 µg

Lane 5:
Mouse testis lysate at 20 µg

Lane 6:
HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate at 20 µg

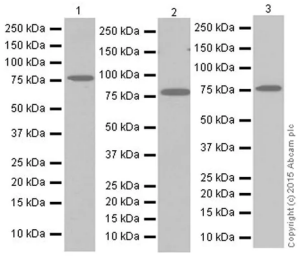
Lane 7:
HepG2 (Human liver hepatocellular carcinoma cell line) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 77 kDa

Observed band size: 77 kDa



Western blot - Anti-Protein CASP antibody [EPR18806] (ab182216)

Protein CASP Western blot staining using rabbit Anti-Protein CASP antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure time: Lane 1 and 2: 30 seconds; Lane 3: 3 minutes.

All lanes:
Western blot - Anti-Protein CASP antibody [EPR18806] (ab182216) at 1/2000 dilution

Lane 1:
HEK-293 (Human epithelial cell line from embryonic kidney) whole cell lysate at 10 µg

Lane 2:
SH-SY5Y (Human neuroblastoma cell line from bone marrow) whole cell lysate at 10 µg

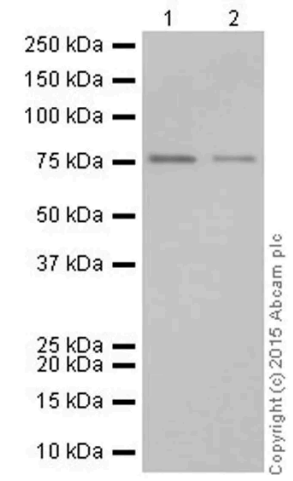
Lane 3:
U-87 MG (Human glioblastoma-astrocytoma epithelial cell line) whole cell lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 77 kDa

Observed band size: 77 kDa



Western blot - Anti-Protein CASP antibody [EPR18806] (ab182216)

Protein CASP Western blot staining using rabbit Anti-Protein CASP antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-Protein CASP antibody [EPR18806] (ab182216) at 1/2000 dilution

Lane 1:
Human fetal liver lysate at 10 µg

Lane 2:
Human fetal heart lysate at 10 µg

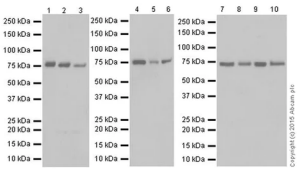
Secondary

All lanes:
Goat Anti-Rabbit IgG Peroxidase Conjugate, specific to the non-reduced form of IgG at 1/100000 dilution

Predicted band size: 77 kDa

Observed band size: 77 kDa

Exposure time: 30s



Western blot - Anti-Protein CASP antibody [EPR18806] (ab182216)

Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure time: Lane 1-6: 30 seconds; Lane 7,8,9 and 10: 8 seconds.

All lanes:
Western blot - Anti-Protein CASP antibody [EPR18806] (ab182216) at 1/2000 dilution

Lane 1:
Mouse brain lysate at 10 µg

Lane 2:
Mouse kidney lysate at 10 µg

Lane 3:
Mouse spleen lysate at 10 µg

Lane 4:
Rat brain lysate at 10 µg

Lane 5:
Rat heart lysate at 10 µg

Lane 6:
Rat spleen lysate at 10 µg

Lane 7:
C6 (Rat glial tumor cell line) whole cell lysate at 10 µg

Lane 8:
RAW 264.7 (Mouse macrophage cell line transformed with Abelson murine leukemia virus) whole cell lysate at 10 µg

Lane 9:
PC-12 (Rat adrenal gland pheochromocytoma cell line) whole cell lysate at 10 µg

Lane 10:
NIH/3T3 (Mouse embryonic fibroblast cell line) whole cell lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 77 kDa, 85 kDa

Observed band size: 77 kDa

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