abcam

ab201959

Anti-Caspase-7 antibody [4D10B2]

KO Validated

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human CASP7 aa 1 to C-terminus. The exact immunogen used to generate this antibody is proprietary information. Database link P55210
Clone number	4D10B2
Purification technique	Affinity purification Protein G
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from tissue culture supernatant.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/200 - 1/400

Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Expected

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

Not recommended

Species	Transfected cell lysate - Human, Recombinant fragment - Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/500 - 1/2000
Notes	-

Species	Rat
Dilution info	1/500 - 1/2000
Notes	-

Species	Transfected cell lysate - Human
Dilution info	1/500 - 1/2000
Notes	-

Species	Recombinant fragment - Human
Dilution info	1/500 - 1/2000
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/200 - 1/1000
Notes	-

Expected

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

Not recommended

Species	Transfected cell lysate - Human, Recombinant fragment - Human
Dilution info	-
Notes	-

Target data

See full target information CASP7

Function

Thiol protease involved in different programmed cell death processes, such as apoptosis, pyroptosis or granzyme-mediated programmed cell death, by proteolytically cleaving target proteins (PubMed:11257230, PubMed:11257231, PubMed:11701129, PubMed:15314233, PubMed:16916640, PubMed:17646170, PubMed:18723680, PubMed:19581639, PubMed:8521391, PubMed:8567622, PubMed:8576161, PubMed:9070923). Has a marked preference for Asp-Glu-Val-Asp (DEVD) consensus sequences, with some plasticity for alternate non-canonical sequences (PubMed:12824163, PubMed:15314233, PubMed:17697120, PubMed:19581639, PubMed:20566630, PubMed:23650375, PubMed:23897474, PubMed:27032039). Its involvement in the different programmed cell death processes is probably determined by upstream proteases that activate CASP7 (By similarity). Acts as an effector caspase involved in the execution phase of apoptosis: following cleavage and activation by initiator caspases (CASP8, CASP9 and/or CASP10), mediates execution of apoptosis by catalyzing cleavage of proteins, such as CLSPN, PARP1, PTGES3 and YY1 (PubMed:10497198, PubMed:16123041, PubMed:16374543, PubMed:16916640, PubMed:18723680, PubMed:20566630, PubMed:21555521, PubMed:22184066, PubMed:22451931, PubMed:27889207, PubMed:28863261, PubMed:31586028, PubMed:34156061, PubMed:35338844, PubMed:35446120). Compared to CASP3, acts as a minor executioner caspase and cleaves a limited set of target proteins (PubMed:18723680). Acts as a key regulator of the inflammatory response in

response to bacterial infection by catalyzing cleavage and activation of the sphingomyelin phosphodiesterase SMPD1 in the extracellular milieu, thereby promoting membrane repair (PubMed:21157428). Regulates pyroptosis in intestinal epithelial cells: cleaved and activated by CASP1 in response to S.typhimurium infection, promoting its secretion to the extracellular milieu, where it catalyzes activation of SMPD1, generating ceramides that repair membranes and counteract the action of gasdermin-D (GSDMD) pores (By similarity). Regulates granzyme-mediated programmed cell death in hepatocytes: cleaved and activated by granzyme B (GZMB) in response to bacterial infection, promoting its secretion to the extracellular milieu, where it catalyzes activation of SMPD1, generating ceramides that repair membranes and counteract the action of perforin (PRF1) pores (By similarity). Following cleavage by CASP1 in response to inflammasome activation, catalyzes processing and inactivation of PARP1, alleviating the transcription repressor activity of PARP1 (PubMed:22464733). 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 (By similarity). Cleaves and activates sterol regulatory element binding proteins (SREBPs) (PubMed:8643593). Cleaves phospholipid scramblase proteins XKR4, XKR8 and XKR9 (By similarity). In case of infection, catalyzes cleavage of Kaposi sarcoma-associated herpesvirus protein ORF57, thereby preventing expression of viral lytic genes (PubMed:20159985). Cleaves BIRC6 following inhibition of BIRC6-caspase binding by DIABLO/SMAC (PubMed:36758104, PubMed:36758106). Isoform Beta. Lacks enzymatic activity.

Storage

Shipped at conditions	Blue Ice
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

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.

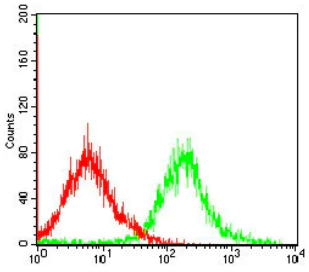
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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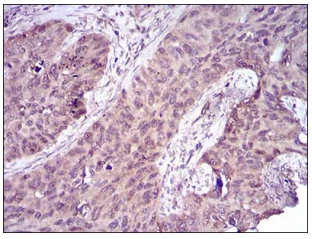
6 product images



Flow Cytometry - Anti-Caspase-7 antibody [4D10B2] (ab201959)

Caspase-7 Flow Cytometry staining using mouse Anti-Caspase-7 antibody

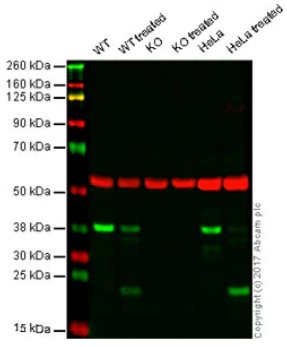
Flow cytometric analysis of MCF7 cells labeling Caspase -7 with ab201959 at 1/200 dilution (green) compared to a negative control (red).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Caspase-7 antibody [4D10B2] (ab201959)

Caspase-7 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-Caspase-7 antibody

Immunohistochemical analysis of paraffin-embedded Human cervical cancer tissue labeling Caspase-7 with ab201959 at 1/200 dilution.



Western blot - Anti-Caspase-7 antibody [4D10B2] (ab201959)

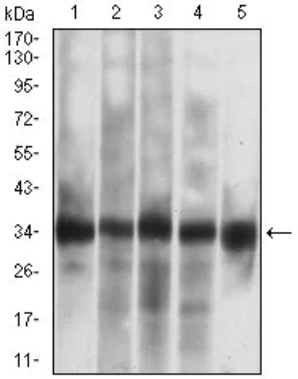
Caspase-7 Western blot staining using mouse Anti-Caspase-7 antibody

Lane 1: Wild type HAP1 whole cell lysate (20 µg)
Lane 2: HAP1 + Staurosporin knockout HAP1 whole cell lysate (20 µg)
Lane 3: CASP7 whole cell lysate (20 µg)
Lane 4: CASP7 + Staurosporin whole cell lysate (20 µg)
Lane 5: HeLa whole cell lysate (20 µg)
Lane 6: HeLa + Staurosporin whole cell lysate (20 µg)

Lanes 1 - 6: Merged signal (red and green). Green - ab201959 observed at 38,20 kDa. Red - loading control, ab176560, observed at 50 kDa.

ab201959 was shown to specifically react with HAP1 + Staurosporin when HAP1 + Staurosporin knockout samples were used. Wild-type and HAP1 + Staurosporin knockout samples were subjected to SDS-PAGE. ab201959 and ab176560 (Rabbit anti alpha Tubulin loading control) were incubated overnight at 4°C at 1000 dilution and 1/10000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed ab216773 and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed ab216776 secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.
All lanes:
Western blot - Anti-Caspase-7 antibody [4D10B2] (ab201959)

Predicted band size: 34 kDa



Western blot - Anti-Caspase-7 antibody [4D10B2] (ab201959)

All lanes:
Western blot - Anti-Caspase-7 antibody [4D10B2] (ab201959) at 1/500 dilution

Lane 1:
Jurkat cell lysate

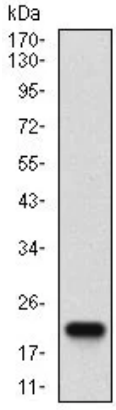
Lane 2:
HEK293 cell lysate

Lane 3:
MOLT4 cell lysate

Lane 4:
MCF7 cell lysate

Lane 5:
PC12 cell lysate

Predicted band size: 34 kDa



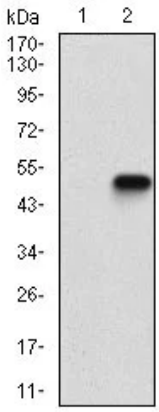
Western blot - Anti-Caspase-7 antibody [4D10B2] (ab201959)

Expected MWt is 22.5 kDa.
All lanes:
Western blot - Anti-Caspase-7 antibody [4D10B2] (ab201959) at 1/500 dilution

All lanes:
Human Caspase-7 (aa29-198) recombinant protein

Predicted band size: 34 kDa

Observed band size: 22 kDa



Western blot - Anti-Caspase-7 antibody [4D10B2] (ab201959)

All lanes:
Western blot - Anti-Caspase-7 antibody [4D10B2] (ab201959) at 1/500 dilution

Lane 1:
HEK293 cell lysate

Lane 2:
Caspase-7 (aa29-198)-hIgGFc transfected HEK293 cell lysate

Predicted band size: 34 kDa

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