

Caspase-1 Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10012**Specification**

Caspase-1 Antibody - Product Information

Application	WB
Primary Accession	P29466
Other Accession	NP_150636
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	45159

Caspase-1 Antibody - Additional Information**Gene ID** 834

Application & Usage	Western blot analysis (0.5-4 µg/ml), immunoprecipitation (4-8 µg/ml) and immunofluorescence (10-20 µg/ml). The immunoaffinity purified antibody recognizes 45 kDa procaspase-1 and the 20 kDa cleaved product.
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Other Names

CASP1, IL1BCE, P45, Interleukin-1 beta convertase, IL-1BC, IL1BC, p45, IL1B-convertase, CASP-1, ICE

Target/Specificity

Caspase-1

Antibody Form

Liquid

Appearance

Colorless liquid

Formulation

100 µg (0.2 mg/ml) affinity purified rabbit anti-caspase-1 polyclonal antibody in phosphate buffered saline (PBS), pH 7.2, containing 30% glycerol, 0.5% BSA, 0.01% thimerosal.

Handling

The antibody solution should be gently mixed before use.

Reconstitution & Storage

-20 °C

Background Descriptions

Precautions

Caspase-1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Caspase-1 Antibody - Protein Information

Name CASP1

Synonyms IL1BC, IL1BCE

Function

Thiol protease involved in a variety of inflammatory processes by proteolytically cleaving other proteins, such as the precursors of the inflammatory cytokines interleukin-1 beta (IL1B) and interleukin 18 (IL18) as well as the pyroptosis inducer Gasdermin-D (GSDMD), into active mature peptides (PubMed:15326478, PubMed:15498465, PubMed:1574116, PubMed:26375003, PubMed:32051255, PubMed:37993714, PubMed:7876192, PubMed:9334240). Plays a key role in cell immunity as an inflammatory response initiator: once activated through formation of an inflammasome complex, it initiates a pro-inflammatory response through the cleavage of the two inflammatory cytokines IL1B and IL18, releasing the mature cytokines which are involved in a variety of inflammatory processes (PubMed:15326478, PubMed:15498465, PubMed:1574116, PubMed:32051255, PubMed:7876192). Cleaves a tetrapeptide after an Asp residue at position P1 (PubMed:15498465, PubMed:1574116, PubMed:7876192). Also initiates pyroptosis, a programmed lytic cell death pathway, through cleavage of GSDMD (PubMed:26375003). In contrast to cleavage of interleukin IL1B, recognition and cleavage of GSDMD is not strictly dependent on the consensus cleavage site but depends on an exosite interface on CASP1 that recognizes and binds the Gasdermin-D, C-terminal (GSDMD-CT) part (PubMed:32051255, PubMed:32109412, PubMed:32553275). Cleaves and activates CASP7 in response to bacterial infection, promoting plasma membrane repair (PubMed:22464733). Upon inflammasome activation, during DNA virus infection but not RNA virus challenge, controls antiviral immunity through the cleavage of CGAS, rendering it inactive (PubMed:28314590). In apoptotic cells, cleaves SPHK2 which is released from cells and remains enzymatically active extracellularly (PubMed:20197547).

Cellular Location

Cytoplasm. Cell membrane

Tissue Location

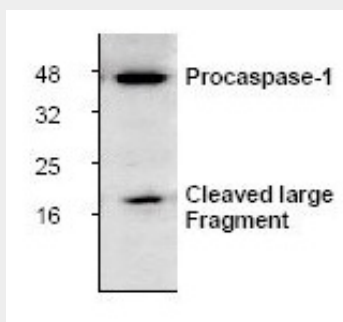
Expressed in larger amounts in spleen and lung. Detected in liver, heart, small intestine, colon, thymus, prostate, skeletal muscle, peripheral blood leukocytes, kidney and testis. No expression in the brain.

Caspase-1 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](#)

Caspase-1 Antibody - Images



Western blot analysis of Caspase-1 expression in Rat liver tissue lysate.

Caspase-1 Antibody - Background

Caspase family of cysteine proteases has been shown to play a key role in apoptosis. Caspase-1 (ICE, interleukin-1 β -converting enzyme) is the mammalian caspase responsible for the proteolytic conversion of the proforms of interleukin-1 β and IL-18 into active cytokines. Like other caspases, Caspase-1 itself is synthesized as a pro-enzyme that is cleaved during activation into a large (20 kDa) and small (10 kDa) subunits. The cellular role of caspase-1 appears limited to cytokine activation as they do not have obvious roles in apoptosis.