10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

CASP1 / Caspase 1 Antibody (C-Terminus)

Rabbit Polyclonal Antibody
Catalog # ALS12679

Specification

CASP1 / Caspase 1 Antibody (C-Terminus) - Product Information

Application	**IHC, WB**
Primary Accession	P29466
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Calculated MW	**45kDa KDa**

CASP1 / Caspase 1 Antibody (C-Terminus) - Additional Information

Gene ID 834

Other Names
Caspase-1, CASP-1, 3.4.22.36, Interleukin-1 beta convertase, IL-1BC, Interleukin-1 beta-converting enzyme, ICE, IL-1 beta-converting enzyme, p45, Caspase-1 subunit p20, Caspase-1 subunit p10, CASP1, IL1BC, IL1BCE

Target/Specificity
16 amino acid peptide from near the carboxy-terminus of human Caspase-1

Reconstitution & Storage
Short term 4°C, long term aliquot and store at -20°C, avoid freeze thaw cycles. Store undiluted.

Precautions
CASP1 / Caspase 1 Antibody (C-Terminus) is for research use only and not for use in diagnostic or therapeutic procedures.

CASP1 / Caspase 1 Antibody (C-Terminus) - 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:1574116, PubMed:7876192, PubMed:15498465, PubMed:26375003, PubMed:<a href="http://www.uniprot.org/citations/32051255"

target="_blank">32051255). 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:1574116, PubMed:7876192, PubMed:15498465, PubMed:15326478, PubMed:32051255). Cleaves a tetrapeptide after an Asp residue at position P1 (PubMed:1574116, PubMed:7876192, PubMed:15498465). Also initiates pyroptosis, a programmed lytic cell death pathway, through cleavage of GSDMD (PubMed:26375003). In contrast to cleavage of interleukins IL1B and 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.

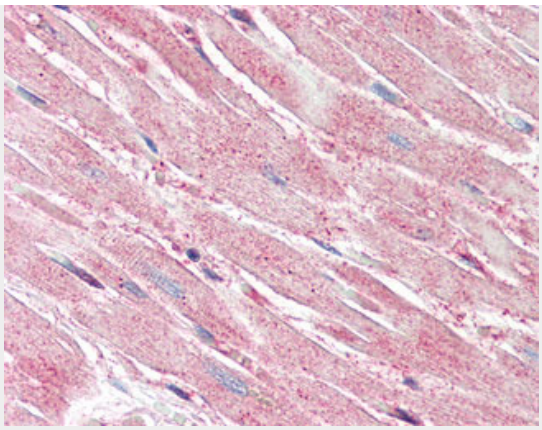
CASP1 / Caspase 1 Antibody (C-Terminus) - Protocols

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

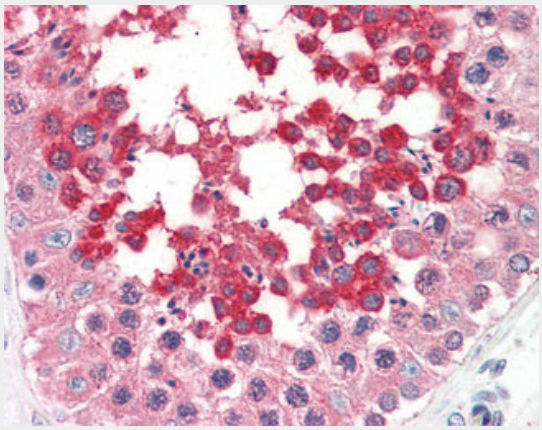
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

CASP1 / Caspase 1 Antibody (C-Terminus) - Images

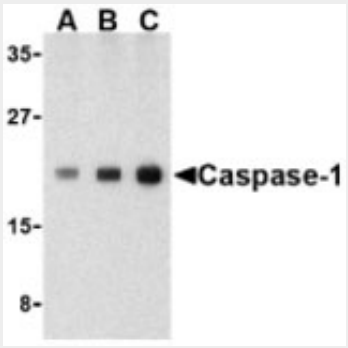
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Anti-Caspase 1 antibody IHC of human heart.



Anti-Caspase 1 antibody IHC of human testis.



Western blot of caspase-1 in human heart cell lysate with caspase-1 antibody at (A) 0.5, (B) 1,...

CASP1 / Caspase 1 Antibody (C-Terminus) - Background

Thiol protease that cleaves IL-1 beta between an Asp and an Ala, releasing the mature cytokine which is involved in a variety of inflammatory processes. Important for defense against pathogens. Cleaves and activates sterol regulatory element binding proteins (SREBPs). Can also promote apoptosis.

CASP1 / Caspase 1 Antibody (C-Terminus) - References

Thornberry N.A.,et al.Nature 356:768-774(1992).
Cerretti D.P.,et al.Science 256:97-100(1992).
Alnemri E.S.,et al.J. Biol. Chem. 270:4312-4317(1995).
Totoki Y.,et al.Submitted (APR-2005) to the EMBL/GenBank/DDBJ databases.

Taylor T.D.,et al.Nature 440:497-500(2006).