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Anti-Caspase 1 p20 Antibody

Catalog # AP51037

Product Information

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

Additional Information

Gene ID	834
Other Names	IL1BC; IL1BCE; Caspase-1; CASP-1; Interleukin-1 beta convertase; IL-1BC; Interleukin-1 beta-converting enzyme; ICE; IL-1 beta-converting enzyme; p45
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the center region of human Caspase 1 p20. The exact sequence is proprietary.
Dilution	WB~~WB (1/500 - 1/1000)
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

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

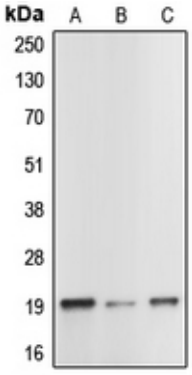
Tissue Location

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.

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).

Images



Western blot analysis of Caspase 1 p20 expression in HEK293T UV-treated (A), Raw264.7 LPS-treated (B), rat heart (C) whole cell lysates. (Predicted band size: 45 kD; Observed band size: 20 kD)

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