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Anti-Caspase-1(P10) Antibody

Catalog # ABO10841

Product Information

Application	WB, IHC-P
Primary Accession	P29466
Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Caspase-1(CASP1) detection. Tested with WB, IHC-P in Human.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

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
Calculated MW	45159
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Human, By Heat Western blot, 0.1-0.5 □g/ml, Human
Subcellular Localization	Cytoplasm.
Tissue Specificity	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. .
Source	Eukaryota
Protein Name	Caspase-1(CASP-1)
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human Caspase-1(P10)(249-262aa VFIGRLIEHMQEYA).
Purification	Immunogen affinity purified.

Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.
Sequence Similarities	Belongs to the peptidase C14A family.

Protein Information

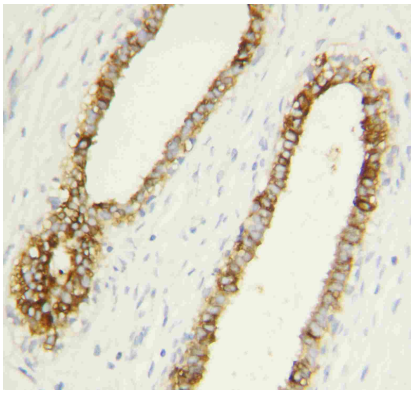
Name	CASP1
Synonyms	IL1BC, IL1BCE
Function	Thiol protease involved in a variety of inflammatory processes by proteolytically cleaving other proteins, such as the precursors of the inflammatory cytokines interleukin-1 beta (IL1B) and interleukin 18 (IL18) as well as the pyroptosis inducer Gasdermin-D (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.

Background

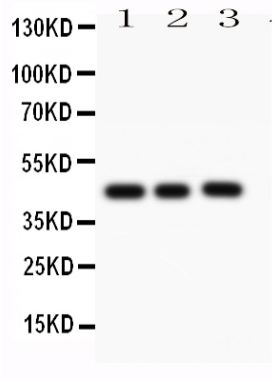
Caspase 1, apoptosis-related cysteine protease, is a cysteine protease that regulates inflammatory processes through its capacity to process and activate the interleukin-1-beta, IL18, and IL33 precursor proteins. Caspase 1 was purified ICE from the cytosol of the THP. human monocytic cell line and found that the active protease was made up of 2 peptides, which they called p20 and p10 based on their apparent molecular masses by SDS-PAGE. It belongs to a family of cysteine proteases known as caspases that always cleave proteins following an aspartic acid residue. The Caspase1 gene consists of 10 exons spanning at least 10.6 kb. The Caspase 1 gene is mapped to 11q23, a site frequently involved in rearrangement in human cancers, including a number of leukemias and lymphomas, by Southern DNA blot analysis of rodent-human hybrids and by in situ hybridization to normal human metaphase chromosomes. Caspase 1 has been shown to

induce cell necrosis or pyroptosis and may function in various developmental stages.

Images



Anti-Caspase-1(P10) antibody, ABO10841, IHC(P)IHC(P): Human Mammary Cancer Tissue



Anti-Caspase-1(P10) antibody, ABO10841, Western blottingAll lanes: Anti CASP1(P10) (ABO10841) at 0.5ug/mlLane 1: MCF-7 Whole Cell Lysate at 40ugLane 2: HELA Whole Cell Lysate at 40ugLane 3: SW620 Whole Cell Lysate at 40ugPredicted bind size: 45KDObserved bind size: 45KD

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