



Caspase-1 (PTR1290) Mouse mAb

Catalog No	YP-mAb-19103
Isotype	IgG
Reactivity	Human;Mouse;Rat
Applications	WB
Gene Name	CASP1 IL1BC IL1BCE
Immunogen	Synthesized peptide derived from human Caspase-1 AA range: 350-404
Specificity	This antibody detects endogenous levels of Caspase-1 protein.
Formulation	PBS, 50% glycerol, 0.05% Proclin 300, 0.05%BSA
Source	Polyclonal, Rabbit,IgG
Purification	Protein G
Dilution	WB 1:500-2000; IF 1:100-500; ELISA 1:1000-5000
Concentration	1 mg/ml
Purity	≥90%
Storage Stability	-20°C/1 year
Synonyms	CASP1 IL1BC IL1BCE;Caspase-1;CASP1;IL1BC;IL1BCE;CASP-1;Interleukin-1 beta convertase;IL-1BC;Interleukin-1 beta-converting enzyme;ICE;IL-1 beta-converting enzyme;p45;[Cleaved into: Caspase-1 subunit p20;Caspase-1 subunit p10]
Observed Band	45kD
Calculated Molecular Weight	45kD
Cell Pathway	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.
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 . 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 . Cleaves a tetrapeptide after an Asp residue at position P1 . Also initiates



pyroptosis, a programmed lytic cell death pathway, through cleavage of GSDMD . 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 . Upon inflammasome activation, during DNA virus infection but not RNA virus challenge, controls antiviral immunity through the cleavage of CGAS, rendering it inactive . In apoptotic cells, cleaves SPHK2 which is released from cells and remains enzymatically active extracellularly . ; [Isoform Delta]: Apoptosis inactive. ; [Isoform Epsilon]: Apoptosis inactive.

Background

caspase 1(CASP1) Homo sapiens This gene encodes a protein which is a member of the cysteine-aspartic acid protease (caspase) family. Sequential activation of caspases plays a central role in the execution-phase of cell apoptosis. Caspases exist as inactive proenzymes which undergo proteolytic processing at conserved aspartic residues to produce 2 subunits, large and small, that dimerize to form the active enzyme. This gene was identified by its ability to proteolytically cleave and activate the inactive precursor of interleukin-1, a cytokine involved in the processes such as inflammation, septic shock, and wound healing. This gene has been shown to induce cell apoptosis and may function in various developmental stages. Studies of a similar gene in mouse suggest a role in the pathogenesis of Huntington disease. Alternative splicing results in transcript variants encoding distinct isoforms. [provided by RefSeq, Mar 2012],

matters needing attention

Avoid repeated freezing and thawing!

Usage suggestions

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