Caspase-1 Blocking Peptide

PRODUCT OVERVIEW

Product Name	Caspase-1 (CASP1), Blocking Peptide
Full Product Name	Caspase-1 Peptide
Product Gene Name	CASP1 blocking peptide
Product Synonym Names	ICE; P45; IL1BC; IL1BCE; Caspase-1; Interleukin-1 beta convertase; CASP-1; caspase 1, apoptosis-related cysteine peptidase (interleukin 1, beta, convertase)
Form/Format	Liquid
Concentration	200 ug/mL (lot specific)
Preparation and Storage	Store Caspase-1 peptide at -20 degree C, stable for one year.
Antibody/Peptide Pairs	Caspase-1 peptide (MBS151935) is used for blocking the activity of Caspase-1 antibody (MBS151296)
Molecular Weight	10,417 Da
OMIM	147678
Species	Human
Buffer	PBS pH 7.2 (10 mM NaH2PO4, 10 mM Na2HPO4, 130 mM NaCl) containing 0.1% bovine serum albumin and 0.02% sodium azide
Location	16 amino acids near the carboxy terminus of human Caspase-1.
Applications Tested/Suitable for CASP1 blocking peptide	Blocking (BL)
Application Notes for CASP1 blocking peptide	Caspase-1 peptide is used for blocking the activity of Caspase-1 antibody.
Related Product Information for CASP1 blocking peptide	MBS151935 is a blocking peptide targeting CASP1. Also known as Caspase-1 Peptide.
Other Notes	Small volumes of CASP1 blocking peptide vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CASP1. It may not necessarily be applicable to this product.

NCBI GI #	15431328
NCBI GeneID	834
NCBI Accession #	NP_150634
UniProt Primary Accession #	P29466
UniProt Secondary Accession #	Q53EY6; Q6DMQ1; Q6GSS3; Q6PI75; Q9UCN3; B5MDZ1
UniProt Related Accession #	P29466
GenBank Nucleotide #	NM_033292.3
NCBI Official Full Name	caspase-1 isoform alpha

NCBI Official Synonym Full Names	caspase 1, apoptosis-related cysteine peptidase
NCBI Official Symbol	CASP1
NCBI Official Synonym Symbols	ICE; P45; IL1BC
UniProt Protein Name	Caspase-1
UniProt Synonym Protein Names	Interleukin-1 beta convertase; IL-1BC; Interleukin-1 beta-converting enzyme; ICE; IL-1 beta-converting enzyme; p45Cleaved into the following 2 chains:Caspase-1 subunit p20; Caspase-1 subunit p10
Protein Family	Caspase
UniProt Gene Name	CASP1
UniProt Synonym Gene Names	IL1BC; IL1BCE; CASP-1; IL-1BC; ICE; IL-1 beta-converting enzyme
UniProt Entry Name	CASP1_HUMAN
NCBI Protein Information	caspase-1; IL1B-convertase; CASP1 nirs variant 1; IL-1 beta-converting enzyme; interleukin 1, beta, convertase; interleukin 1-B converting enzyme; caspase 1, apoptosis-related cysteine peptidase (interleukin 1, beta, convertase)
NCBI Summary for CASP1	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]
UniProt Comments for CASP1	CASP1: 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. Heterotetramer that consists of two anti-parallel arranged heterodimers, each one formed by a 20 kDa (p20) and a 10 kDa (p10) subunit. The p20 subunit can also form a heterodimer with the epsilon isoform which then has an inhibitory effect. May be a component of the inflammasome, a protein complex which also includes PYCARD, CARD8 and NALP2 and whose function would be the activation of proinflammatory caspases. Interacts with CARD17/INCA and CARD18. 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. Specifically inhibited by the cowpox virus Crma protein. Belongs to the peptidase C14A family. 5 isoforms of the human protein are produced by alternative splicing. Protein type: Apoptosis; Protease; EC 3.4.22.36 Chromosomal Location of Human Ortholog: 11q23 Cellular Component: cytoplasm; extracellular region; cytosol Molecular Function: protein binding; cysteine-type endopeptidase activity; endopeptidase activity; caspase activator activity Biological Process: caspase activation; positive regulation of I-kappaB kinase/NF-kappaB cascade; apoptosis; membrane hyperpolarization; interleukin-1 beta production; response to lipopolysaccharide; mitochondrial depolarization; positive regulation of interleukin-1 beta secretion; proteolysis; signal transduction; response to ATP; positive regulation of interleukin-1 alpha secretion; regulation of inflammatory response; response to hypoxia; innate immune response; regulation of autophagy
Research Articles on CASP1	**1.** caspase-1, IL-1beta, and IL-18 are regulated by AIM2, which mediates inflammation-associated renal damage in hepatitis B virus-associated glomerulonephritis
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