CASP4 Antibody

PRODUCT OVERVIEW

Product Name	CASP4, Antibody
Full Product Name	CASP4 (p20, Cleaved-Gln81) Antibody
Product Gene Name	anti-CASP4 antibody
Product Synonym Names	CASP-4; caspase 4, apoptosis-related cysteine peptidase; caspase-4; caspase-4 2; EC 3.4.22.57; EC 3.4.22.64; ICE(rel)-II; ICEREL-II; ICH-2; ICH-2 protease; ICH2; Mih1/TX; TX; TX protease
Species Reactivity	Human
Form/Format	In phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purity/Purification	Immunogen affinity purified
Specificity	CASP4 (p20, Cleaved-Gln81) Antibody detects endogenous levels of total CASP4 (p20, Cleaved-Gln81)
Preparation and Storage	Store at-20 degree C for 1 year
Molecular Weight	43 kDa; 25 kDa
OMIM	602664
3D Structure	ModBase 3D Structure for P49662
Immunogen	A synthesized peptide derived from human CASP4 (p20, Cleaved-Gln81)
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for anti-CASP4 antibody	Western Blot (WB)
Application Notes for anti-CASP4 antibody	WB: 1:500-1:2000
Related Product Information for anti-CASP4 antibody	Involved in the activation cascade of caspases responsible for apoptosis execution. Cleaves caspase-1.
Other Notes	Small volumes of anti-CASP4 antibody 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.
Searchable Terms for CASP4 purchase	MBS8512003 is an antibody targeting CASP4. Also known as CASP4 (p20, Cleaved-Gln81) Antibody. Reactive in Human.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CASP4. It may not necessarily be applicable to this product.

NCBI GI #	4502577
NCBI GeneID	837
NCBI Accession #	NP_001216.1
UniProt Primary Accession #	P49662
UniProt Secondary Accession #	O95601; Q7KYX7; Q9UG96; A2NHL8; A2NHL9; A2NHM0; B3KPZ9; B4DJH5; B4E2D2
UniProt Related Accession #	P49662

GenBank Nucleotide #	NM_001225.3
NCBI Official Full Name	caspase-4 isoform alpha
NCBI Official Synonym Full Names	caspase 4
NCBI Official Symbol	CASP4
NCBI Official Synonym Symbols	TX; Mih1; ICH-2; Mih1/TX; ICEREL-II; ICE(rel)II
UniProt Protein Name	Caspase-4
UniProt Synonym Protein Names	ICE and Ced-3 homolog 2
Protein Family	Caspase
UniProt Gene Name	CASP4
UniProt Synonym Gene Names	ICH2; ICH-2
NCBI Protein Information	caspase-4
NCBI Summary for CASP4	This gene encodes a protein that 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 composed of a prodomain and a large and small protease subunit. Activation of caspases requires proteolytic processing at conserved internal aspartic residues to generate a heterodimeric enzyme consisting of the large and small subunits. This caspase is able to cleave and activate its own precursor protein, as well as caspase 1 precursor. When overexpressed, this gene induces cell apoptosis. Alternative splicing results in transcript variants encoding distinct isoforms. [provided by RefSeq, Jul 2008]
UniProt Comments for CASP4	Inflammatory caspase (PubMed:7797510, PubMed:23516580, PubMed:25119034). Essential effector of NLRP3 inflammasome-dependent CASP1 activation and IL1B and IL18 secretion in response to non-canonical activators, such as UVB radiation, cholera enterotoxin subunit B and cytosolic LPS (PubMed:22246630, PubMed:26174085, PubMed:26173988, PubMed:26508369, PubMed:25964352). Independently of NLRP3 inflammasome and CASP1, promotes pyroptosis, through GSDMD cleavage and activation, and IL1A, IL18 and HMGB1 release in response to non-canonical inflammasome activators (PubMed:24879791, PubMed:25964352). Plays a crucial role in the restriction of Salmonella typhimurium replication in colonic epithelial cells during infection (PubMed:25121752). In later stages of the infection, LPS from cytosolic Salmonella triggers CASP4 activation, which ultimately results in pyroptosis of infected cells and their extrusion into the gut lumen, as well as in IL18 secretion. Pyroptosis limits bacterial replication, while cytokine secretion promotes the recruitment and activation of immune cells and triggers mucosal inflammation. Involved in LPS-induced IL6 secretion; this activity may not require caspase enzymatic activity (PubMed:26508369). Involved in cell death induced by endoplasmic reticulum stress and by treatment with cytotoxic APP peptides found Alzheimer's patient brains (PubMed:15123740, PubMed:22246630, PubMed:23661706). Activated by direct binding to LPS without the need of an upstream sensor (PubMed:25119034). Does not directly process IL1B (PubMed:7743998, PubMed:7797592, PubMed:7797510). During non-canonical inflammasome activation, cuts CGAS and may play a role in the regulation of antiviral innate immune activation (PubMed:28314590).
Research Articles on CASP4	**1.** Results indicate functional differences between human caspase-4 and murine caspase-11.
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