Anti-Caspase-4 antibody

Description	Caspase-4 is a protein encoded by the CASP4 gene which is approximately 43,2 kDa. Caspase-4 is localised to the cytoplasm, cytosol and endoplasmic reticulum membrane. It is involved in the p53 signalling, the TRAF pathway, ceramide pathway and innate immune system. CASP4 is an essential effector of NLRP3 inflammasome-dependent CASP1 activation and IL1B and IL18 secretion in response to non-canonical activators, such as UVB radiation. It is involved in the signalling pathways of apoptosis, necrosis and inflammation. It is widely expressed, including keratinocytes and colonic and small intestinal epithelial cells. Mutations in the CASP4 gene may result in neuroblastoma. STJ92022 was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen. This polyclonal antibody detects endogenous levels of Caspase-4 protein.

Model	STJ92022
Host	Rabbit
Reactivity	Human, Mouse, Rat
Applications	ELISA, IHC, WB
Immunogen	Synthesized peptide derived from human Caspase-4.
Immunogen Region	Internal
Gene ID	837
Gene Symbol	CASP4
Dilution range	WB 1:500-1:2000IHC 1:100-1:300ELISA 1:40000
Specificity	Caspase-4 Polyclonal Antibody detects endogenous levels of Caspase-4

	protein.
Tissue Specificity	Widely expressed, including in keratinocytes and colonic and small intestinal epithelial cells (at protein level). Not detected in brain.
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Note	For Research Use Only (RUO).
Protein Name	Caspase-4 CASP-4 ICE and Ced-3 homolog 2 ICH-2 ICE rel-II Mih1 Protease TX Caspase-4 subunit 1 Caspase-4 subunit 2
Molecular Weight	45 kDa
Clonality	Polyclonal
Conjugation	Unconjugated
Isotype	IgG
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Concentration	1 mg/ml
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:1505OMIM:602664
Alternative Names	Caspase-4 CASP-4 ICE and Ced-3 homolog 2 ICH-2 ICE rel-II Mih1 Protease TX Caspase-4 subunit 1 Caspase-4 subunit 2
Function	Inflammatory caspase . 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 . 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 . Plays a crucial role in the restriction of Salmonella typhimurium replication in colonic epithelial cells during infection . 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 . Involved in cell death induced by endoplasmic reticulum stress and by treatment with cytotoxic APP peptides found Alzheimer's patient brains . Activated by direct binding to LPS without the need of an upstream sensor . Does not directly process IL1B . During non-canonical inflammasome activation, cuts MB21D1 and may play a role in the regulation of antiviral innate immune activation .
Sequence and Domain Family	The CARD domain mediates LPS recognition and homooligomerization.
Cellular Localization	Cytoplasm, cytosol Endoplasmic reticulum membrane Mitochondrion Inflammasome Secreted. Predominantly localizes to the endoplasmic reticulum (ER). Association with the ER membrane requires TMEM214 . Released in the extracellular milieu by keratinocytes following UVB irradiation .
Post-translational	In response to activation signals, including endoplasmic reticulum stress or

Modifications	treatment with amyloid beta A4 protein fragments (such as beta-amyloid protein 40), undergoes autoproteolytic cleavage.