

Goat Anti-CASP4 Antibody
Peptide-affinity purified goat antibody
Catalog # AF1194a**Specification**

Goat Anti-CASP4 Antibody - Product Information

Application	WB, E
Primary Accession	P49662
Other Accession	NP_150649 , 837
Reactivity	Human
Predicted	Mouse, Dog, Cat
Host	Goat
Clonality	Polyclonal
Concentration	100ug/200ul
Isotype	IgG
Calculated MW	43262

Goat Anti-CASP4 Antibody - Additional Information**Gene ID** 837**Other Names**

Caspase-4, CASP-4, 3.4.22.57, ICE(rel)-II, Protease ICH-2, Protease TX, Caspase-4 subunit 1, Caspase-4 subunit 2, CASP4, ICH2

Dilution

WB~~1:1000

E~~N/A

Format

0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

Goat Anti-CASP4 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-CASP4 Antibody - Protein Information**Name** CASP4 {ECO:0000303|PubMed:15123740, ECO:0000312|HGNC:HGNC:1505}**Function**

Inflammatory caspase that acts as the effector of the non- canonical inflammasome by mediating

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PubMed:26174085, PubMed:26508369). Involved in NLRP6 inflammasome- dependent activation in response to lipoteichoic acid (LTA), a cell- wall component of Gram-positive bacteria, which leads to CASP1 activation and IL1B secretion (PubMed:33377178). Involved in LPS- induced IL6 secretion; this activity may not require caspase enzymatic activity (PubMed:26508369). The non-canonical inflammasome is required for innate immunity to cytosolic, but not vacuolar, bacteria (By similarity). Plays a crucial role in the restriction of S.typhimurium replication in colonic epithelial cells during infection (PubMed:25121752, PubMed:25964352). Activation of the non-canonical inflammasome in brain endothelial cells can lead to excessive pyroptosis, leading to blood-brain barrier breakdown (By similarity). Pyroptosis limits bacterial replication, while cytokine secretion promotes the recruitment and activation of immune cells and triggers mucosal inflammation (PubMed:25121752, PubMed:25964352, PubMed:26375003). May also act as an activator of adaptive immunity in dendritic cells, following activation by oxidized phospholipid 1- palmitoyl-2-arachidonoyl- sn-glycero-3-phosphorylcholine, an oxidized phospholipid (oxPAPC) (By similarity). Involved in cell death induced by endoplasmic reticulum stress and by treatment with cytotoxic APP peptides found in Alzheimer's patient brains (PubMed:15123740, PubMed:22246630, PubMed:23661706). Cleavage of GSDMD is not strictly dependent on the consensus cleavage site but depends on an exosite interface on CASP4 that recognizes and binds the Gasdermin-D, C- terminal (GSDMD-CT) part (PubMed:32109412). Catalyzes cleavage and maturation of IL18; IL18 processing also depends of the exosite interface on CASP4 (PubMed:15326478, PubMed:37993712, PubMed:37993714). In contrast, it does not directly process IL1B (PubMed:7743998, PubMed:7797510, PubMed:7797592). During non-canonical inflammasome activation, cuts CGAS and may play a role in the regulation of antiviral innate immune activation (PubMed:28314590).

Cellular Location

Cytoplasm, cytosol. Endoplasmic reticulum membrane; Peripheral membrane protein; Cytoplasmic side. Mitochondrion Inflammasome. Secreted Note=Predominantly localizes to the endoplasmic reticulum (ER) Association with the ER membrane requires TMEM214 (PubMed:15123740) Released in the extracellular milieu by keratinocytes following UVB irradiation (PubMed:22246630).

Tissue Location

Widely expressed, including in keratinocytes and colonic and small intestinal epithelial cells (at protein level). Not detected in brain.

Goat Anti-CASP4 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)

- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Goat Anti-CASP4 Antibody - Images



AF1194a (0.3 µg/ml) staining of Human Heart lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

Goat Anti-CASP4 Antibody - Background

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.

Goat Anti-CASP4 Antibody - References

A Large-scale genetic association study of esophageal adenocarcinoma risk. Liu CY, et al. Carcinogenesis, 2010 Jul. PMID 20453000.
Mutational analysis of caspase genes in prostate carcinomas. Kim MS, et al. APMIS, 2010 Apr. PMID 20402676.
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Association between genetic variants in VEGF, ERCC3 and occupational benzene haematotoxicity. Hosgood HD 3rd, et al. Occup Environ Med, 2009 Dec. PMID 19773279.
Common genetic variants in candidate genes and risk of familial lymphoid malignancies. Liang XS, et al. Br J Haematol, 2009 Aug. PMID 19573080.