

**Caspase 11 Rabbit mAb**  
**Catalog # AP75193****Specification****Caspase 11 Rabbit mAb - Product Information**

Application	WB, IP
Primary Accession	<a href="#">P70343</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Monoclonal Antibody
Calculated MW	42742

**Caspase 11 Rabbit mAb - Additional Information****Gene ID** 12363**Other Names**  
Casp4**Dilution**  
WB~~1/500-1/1000  
IP~~N/A**Format**  
Liquid**Caspase 11 Rabbit mAb - Protein Information****Name** Casp4 {ECO:0000312|MGI:MGI:107700}**Function**

Inflammatory caspase that acts as the effector of the non-canonical inflammasome by mediating lipopolysaccharide (LPS)-induced pyroptosis (PubMed:[22002608](http://www.uniprot.org/citations/22002608), PubMed:[23348507](http://www.uniprot.org/citations/23348507), PubMed:[23887873](http://www.uniprot.org/citations/23887873), PubMed:[24031018](http://www.uniprot.org/citations/24031018), PubMed:[25119034](http://www.uniprot.org/citations/25119034), PubMed:[30135078](http://www.uniprot.org/citations/30135078), PubMed:[37001519](http://www.uniprot.org/citations/37001519), PubMed:[38632402](http://www.uniprot.org/citations/38632402)). Also indirectly activates the NLRP3 and NLRP6 inflammasomes (PubMed:[26320999](http://www.uniprot.org/citations/26320999), PubMed:[30392956](http://www.uniprot.org/citations/30392956), PubMed:[37001519](http://www.uniprot.org/citations/37001519)). Acts as a thiol protease that cleaves a tetrapeptide after an Asp residue at position P1: catalyzes cleavage of CGAS and GSDMD (PubMed:[26375003](http://www.uniprot.org/citations/26375003), PubMed:[26375003](http://www.uniprot.org/citations/28314590), PubMed:[28314590](http://www.uniprot.org/citations/28314590))

target="\_blank">>28314590</a>, PubMed:<a href="http://www.uniprot.org/citations/30392956" target="\_blank">>30392956</a>, PubMed:<a href="http://www.uniprot.org/citations/38632402" target="\_blank">>38632402</a>). In contrast to its human ortholog, does not cleave IL18 (PubMed:<a href="http://www.uniprot.org/citations/37993712" target="\_blank">>37993712</a>, PubMed:<a href="http://www.uniprot.org/citations/37993714" target="\_blank">>37993714</a>). Effector of the non-canonical inflammasome independently of NLRP3 inflammasome and CASP1: the non-canonical inflammasome promotes pyroptosis through GSDMD cleavage without involving secretion of cytokine IL1B and IL18 (PubMed:<a href="http://www.uniprot.org/citations/22002608" target="\_blank">>22002608</a>, PubMed:<a href="http://www.uniprot.org/citations/22895188" target="\_blank">>22895188</a>, PubMed:<a href="http://www.uniprot.org/citations/23348507" target="\_blank">>23348507</a>, PubMed:<a href="http://www.uniprot.org/citations/23887873" target="\_blank">>23887873</a>, PubMed:<a href="http://www.uniprot.org/citations/24031018" target="\_blank">>24031018</a>, PubMed:<a href="http://www.uniprot.org/citations/26320999" target="\_blank">>26320999</a>, PubMed:<a href="http://www.uniprot.org/citations/26375003" target="\_blank">>26375003</a>, PubMed:<a href="http://www.uniprot.org/citations/30135078" target="\_blank">>30135078</a>, PubMed:<a href="http://www.uniprot.org/citations/30589883" target="\_blank">>30589883</a>). In the non-canonical inflammasome, CASP4/CASP11 is activated by direct binding to the lipid A moiety of LPS without the need of an upstream sensor (PubMed:<a href="http://www.uniprot.org/citations/22002608" target="\_blank">>22002608</a>, PubMed:<a href="http://www.uniprot.org/citations/23348507" target="\_blank">>23348507</a>, PubMed:<a href="http://www.uniprot.org/citations/25119034" target="\_blank">>25119034</a>, PubMed:<a href="http://www.uniprot.org/citations/37001519" target="\_blank">>37001519</a>, PubMed:<a href="http://www.uniprot.org/citations/38632402" target="\_blank">>38632402</a>). LPS-binding promotes CASP4/CASP11 activation and CASP4/CASP11-mediated cleavage of GSDMD, followed by pyroptosis of infected cells and their extrusion into the gut lumen (PubMed:<a href="http://www.uniprot.org/citations/22002608" target="\_blank">>22002608</a>, PubMed:<a href="http://www.uniprot.org/citations/23348507" target="\_blank">>23348507</a>, PubMed:<a href="http://www.uniprot.org/citations/25119034" target="\_blank">>25119034</a>, PubMed:<a href="http://www.uniprot.org/citations/38632402" target="\_blank">>38632402</a>). Also indirectly promotes secretion of mature cytokines (IL1A, IL18 and HMGB1) downstream of GSDMD-mediated pyroptosis via activation of the NLRP3 and NLRP6 inflammasomes (By similarity). Involved in NLRP3- dependent CASP1 activation and IL1B and IL18 secretion in response to non-canonical activators, such as UVB radiation or cholera enterotoxin (PubMed:<a href="http://www.uniprot.org/citations/26320999" target="\_blank">>26320999</a>). 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 and IL18 secretion (PubMed:<a href="http://www.uniprot.org/citations/30392956" target="\_blank">>30392956</a>). Involved in LPS-induced IL6 secretion; this activity may not require caspase enzymatic activity (By similarity). The non-canonical inflammasome is required for innate immunity to cytosolic, but not vacuolar, bacteria (PubMed:<a href="http://www.uniprot.org/citations/23348507" target="\_blank">>23348507</a>). Plays a crucial role in the restriction of S.typhimurium replication in colonic epithelial cells during infection (PubMed:<a href="http://www.uniprot.org/citations/25121752" target="\_blank">>25121752</a>, PubMed:<a href="http://www.uniprot.org/citations/26375003" target="\_blank">>26375003</a>, PubMed:<a href="http://www.uniprot.org/citations/34671164" target="\_blank">>34671164</a>). Activation of the non-canonical inflammasome in brain endothelial cells can lead to excessive pyroptosis, leading to blood-brain barrier breakdown (PubMed:<a href="http://www.uniprot.org/citations/38632402" target="\_blank">>38632402</a>). Pyroptosis limits bacterial replication, while cytokine secretion promotes the recruitment and activation of immune cells and triggers mucosal inflammation (PubMed:<a href="http://www.uniprot.org/citations/25121752" target="\_blank">>25121752</a>). 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) (PubMed:<a href="http://www.uniprot.org/citations/27103670" target="\_blank">>27103670</a>). Cleavage of GSDMD is not strictly dependent on the consensus cleavage site but depends on an exosite interface on CASP4/CASP11 that recognizes and binds the Gasdermin-D, C-terminal (GSDMD-CT) part (PubMed:<a href="http://www.uniprot.org/citations/27103670" target="\_blank">>27103670</a>).

[32109412](http://www.uniprot.org/citations/32109412), PubMed:[32554464](http://www.uniprot.org/citations/32554464)). In contrast, it does not directly process IL1B (PubMed:[8702803](http://www.uniprot.org/citations/8702803), PubMed:[9038361](http://www.uniprot.org/citations/9038361)). During non-canonical inflammasome activation, cuts CGAS and may play a role in the regulation of antiviral innate immune activation (PubMed:[28314590](http://www.uniprot.org/citations/28314590)).

#### Cellular Location

Cytoplasm, cytosol {ECO:0000250|UniProtKB:P49662}. Cytoplasm. Endoplasmic reticulum membrane {ECO:0000250|UniProtKB:P49662}; Peripheral membrane protein {ECO:0000250|UniProtKB:P49662}; Cytoplasmic side {ECO:0000250|UniProtKB:P49662}. Mitochondrion {ECO:0000250|UniProtKB:P49662}. Inflammasome. Secreted {ECO:0000250|UniProtKB:P49662} Note=Predominantly localizes to the endoplasmic reticulum (ER) Association with the ER membrane requires TMEM214. Released in the extracellular milieu by keratinocytes following UVB irradiation {ECO:0000250|UniProtKB:P49662}

#### Tissue Location

Widely expressed, including in thymus, lung and spleen (at protein level). Very low levels, if any, in the brain

### Caspase 11 Rabbit mAb - 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](#)

### Caspase 11 Rabbit mAb - Images

