

# Caspase-11 (PT1565R) PT™ Rabbit mAb

CatalogNo: YM9407 **Recombinant** 

## Key Features

### Host Species

- Rabbit

### Reactivity

- Mouse

### Applications

- WB,IHC,IF,ELISA

### MW

- 43kD (Calculated)
- 42kD (Observed)

### Isotype

- IgG,Kappa

## Storage

**Storage\*** -15°C to -25°C/1 year(Do not lower than -25°C)**Formulation** PBS, 50% glycerol, 0.05% Proclin 300, 0.05%BSA

## Recommended Dilution Ratios

**IHC 1:200-1:1000****WB 1:2000-1:10000****IF 1:200-1:1000****ELISA 1:5000-1:20000**

## Basic Information

**Clonality** Monoclonal**Clone Number** PT1565R

## Immunogen Information

**Specificity** Endogenous

## Target Information

**Gene name** CASP4 ICH2

**Protein Name** CASP4(Caspase4)

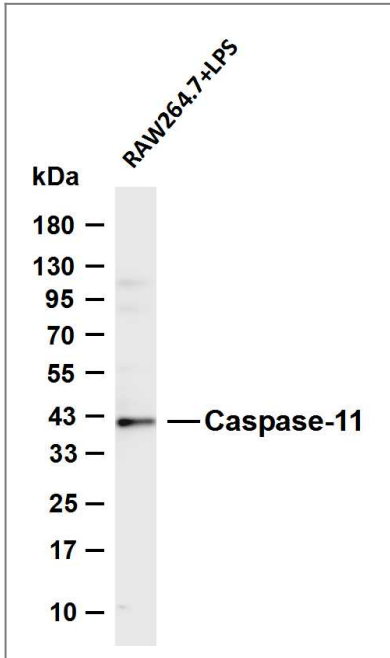
Organism	Gene ID	UniProt ID
Human	<a href="#">837</a> ;	<a href="#">P49662</a> ;
Mouse	<a href="#">12363</a> ;	<a href="#">P70343</a> ;

**Cellular Localization** Cytoplasm. Endoplasmic.reticulum.Inflammasome.Membrane.Mitochondrion.Secreted

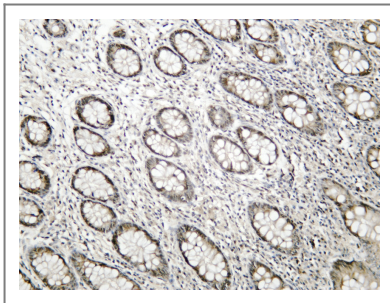
**Tissue specificity** Widely expressed, including in thymus, lung and spleen (at protein level). Very low levels, if any, in the brain.

**Function** Inflammatory caspase that acts as the effector of the non-canonical inflammasome by mediating lipopolysaccharide (LPS)-induced pyroptosis (PubMed:22002608, PubMed:23348507, PubMed:23887873, PubMed:24031018, PubMed:25119034, PubMed:30135078, PubMed:37001519, PubMed:38632402). Also indirectly activates the NLRP3 and NLRP6 inflammasomes (PubMed:26320999, PubMed:30392956, PubMed: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, PubMed:28314590, PubMed:30392956, PubMed:38632402). In contrast to its human ortholog, does not cleave IL18 (PubMed:37993712, PubMed:37993714). 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:22002608, PubMed:22895188, PubMed:23348507, PubMed:23887873, PubMed:24031018, PubMed:26320999, PubMed:26375003, PubMed:30135078, PubMed:30589883). 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:22002608, PubMed:23348507, PubMed:25119034, PubMed:37001519, PubMed:38632402). 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:22002608, PubMed:23348507, PubMed:25119034, PubMed:38632402). 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:26320999). 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:30392956). 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:23348507). Plays a crucial role in the restriction of *S.typhimurium* replication in colonic epithelial cells during infection (PubMed:25121752, PubMed:26375003, PubMed:34671164). Activation of the non-canonical inflammasome in brain endothelial cells can lead to excessive pyroptosis, leading to blood-brain barrier breakdown (PubMed:38632402). Pyroptosis limits bacterial replication, while cytokine secretion promotes the recruitment and activation of immune cells and triggers mucosal inflammation (PubMed:25121752). 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:27103670). 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:32109412, PubMed:32554464). In contrast, it does not directly process IL1B (PubMed:8702803, PubMed:9038361). During non-canonical inflammasome activation, cuts CGAS and may play a role in the regulation of antiviral innate immune activation (PubMed:28314590).

## Validation Data



Various whole cell lysates were separated by 4-20% SDS-PAGE, and the membrane was blotted with anti-Caspase-11 (PT1565R) antibody. The HRP-conjugated Goat anti-Rabbit IgG (H + L) antibody was used to detect the antibody. Lane 1: RAW264.7 was treated with LPS(100mg/ml) for 24 hours Predicted band size: 43kDa Observed band size: 42kDa



Human tonsil was stained with anti-Caspase-11 (PT1565R) Rabbit antibody

## Contact information

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Please scan the QR code to access additional product information:  
**Caspase-11  
(PT1565R) PT™  
Rabbit mAb**