

## Caspase-4 Monoclonal Antibody(Detector)

**catalog number: AN001490P**

**Note:** Centrifuge before opening to ensure complete recovery of vial contents.

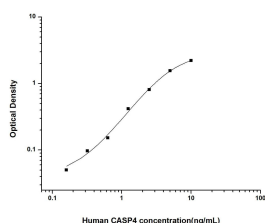
### Description

<b>Reactivity</b>	Human
<b>Immunogen</b>	Recombinant Human Caspase-4 protein expressed by E.coli
<b>Host</b>	Rat
<b>Isotype</b>	Rat IgG1
<b>Clone</b>	1A7
<b>Purification</b>	Protein A/G Purification
<b>Buffer</b>	Phosphate buffered solution, pH 7.2, containing 0.05% Proclin300.

### Applications Recommended Dilution

<b>ELISA Detector</b>	0.1-0.4 µg/mL
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### Data



Sandwich ELISA-Recombinant Human Caspase-4 protein standard curve. Background subtracted standard curve using Caspase-4 antibody(AN001480P)(Capture), Caspase-4 antibody(AN001490P)(Detector) in sandwich ELISA. The reference range value for Recombinant Human Caspase-4 protein is 0.16-10 ng/mL.

### Preparation & Storage

<b>Storage</b>	Store at 4°C valid for 12 months or -20°C valid for long term storage, avoid freeze / thaw cycles.
<b>Shipping</b>	The product is shipped with ice pack, upon receipt, store it immediately at the temperature recommended.

### Background

### For Research Use Only

Inflammatory caspase that acts as the effector of the non-canonical inflammasome by mediating lipopolysaccharide (LPS)-induced pyroptosis. Also indirectly activates the NLRP3 and NLRP6 inflammasomes.

Acts as a thiol protease that cleaves a tetrapeptide after an Asp residue at position P1: catalyzes cleavage of CGAS, GSDMD and IL18.

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.

In the non-canonical inflammasome, CASP4 is activated by direct binding to LPS without the need of an upstream sensor.

LPS-binding promotes CASP4 activation and CASP4-mediated cleavage of GSDMD, followed by pyroptosis of infected cells and their extrusion into the gut lumen.

Also indirectly promotes secretion of mature cytokines (IL1A, IL18 and HMGB1) downstream of GSDMD-mediated pyroptosis via activation of the NLRP3 and NLRP6 inflammasomes.

Involved in NLRP3-dependent CASP1 activation and IL1B and IL18 secretion in response to non-canonical activators, such as UVB radiation or cholera enterotoxin.

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.

Involved in LPS-induced IL6 secretion, this activity may not require caspase enzymatic activity.

The non-canonical inflammasome is required for innate immunity to cytosolic, but not vacuolar, bacteria.

Plays a crucial role in the restriction of S. typhimurium replication in colonic epithelial cells during infection.