

## Anti-Rat IL-1 beta Antibody [PSH02-59] - BSA and Azide free (Capture)

# HA721836



<b>Product Type:</b>	Recombinant Rabbit monoclonal IgG, primary antibodies
<b>Species reactivity:</b>	Rat
<b>Applications:</b>	ELISA(Cap)
<b>Molecular Wt:</b>	Predicted band size: 30.6 kDa
<b>Clone number:</b>	PSH02-59

**Description:** Potent pro-inflammatory cytokine. Initially discovered as the major endogenous pyrogen, induces prostaglandin synthesis, neutrophil influx and activation, T-cell activation and cytokine production, B-cell activation and antibody production, and fibroblast proliferation and collagen production. Promotes Th17 differentiation of T-cells. Synergizes with IL12/interleukin-12 to induce IFNG synthesis from T-helper 1 (Th1) cells. Plays a role in angiogenesis by inducing VEGF production synergistically with TNF and IL6. Involved in transduction of inflammation downstream of pyroptosis: its mature form is specifically released in the extracellular milieu by passing through the gasdermin-D (GSDMD) pore. IL1B production occurs in 2 steps, each being controlled by different stimuli. First, inflammatory signals, such as LPS, stimulate the synthesis and promote the accumulation of cytosolic stores of pro-IL1B (priming). Then additional signals are required for inflammasome assembly, leading to CASP1 activation, pro-IL1B processing and eventually secretion of the active cytokine. IL1B processing and secretion are temporarily associated.

**Immunogen:** Recombinant protein within Rat IL-1 beta aa 117-268 (Q63264).

**Positive control:** Recombinant Rat il-1 beta protein (HA210708).

**Subcellular location:** Secreted.

**Database links:** SwissProt: Q63264 Rat

### Recommended Dilutions:

**ELISA(Cap)** Use at an assay dependent concentration. Can be paired for Sandwich ELISA with Rabbit monoclonal [PSH02-60] to Rat IL-1 beta (Detector) (HA721837) and recombinant standard Rat IL-1 beta (HA210708) as the standard. The reference range value is 30.9-2500pg/ml.

**Storage Buffer:** PBS (pH7.4).

**Storage Instruction:** Store at +4°C after thawing. Aliquot store at -20°C. Avoid repeated freeze / thaw cycles.

**Purity:** Protein A affinity purified.

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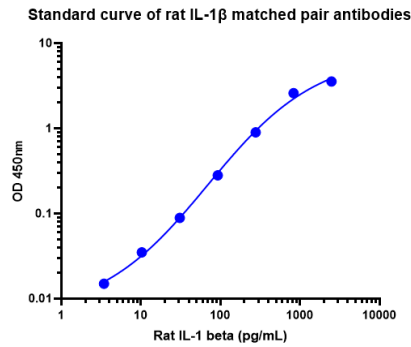
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## Images

**Fig1:** Sandwich ELISA analysis of rat IL1 $\beta$  matched pair antibodies

Elisa assay was performed by coating wells of a 96-well plate with 100  $\mu$ l per well of capture antibody (HA721836) diluted in carbonate/bicarbonate buffer, at a concentration of 2  $\mu$ g/ml overnight at 4 $^{\circ}$ C. Wells of the plate were washed, blocked with 150  $\mu$ l 0.05% tween-20 1% BSA blocking buffer, and incubated with serial diluted rat IL1 $\beta$  protein (HA210708) starting from 2000 pg/ml to 0 pg/ml and detect antibody [PSH02-60]-Biotin (0.2  $\mu$ g/ml) for 1 hour at 30 $^{\circ}$ C with shaking separately in sequence. Then the plate was washed and incubated with 100  $\mu$ l per well of SA-HRP for 0.5 hour at 30 $^{\circ}$ C with shaking. Detection was performed using an Ultra TMB Substrate for 10 minutes at room temperature in the dark. The reaction was stopped with sulfuric acid and absorbances were read on a spectrophotometer at 450 nm.

**Note:** All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

## Background References

1. LaRock C.N., Todd J., LaRock D.L., Olson J., O'Donoghue A.J., Robertson A.A., Cooper M.A., Hoffman H.M., Nizet V. IL-1beta is an innate immune sensor of microbial proteolysis. *Sci. Immunol.* 1:0-0 (2016)
2. Xia S., Zhang Z., Magupalli V.G., Pablo J.L., Dong Y., Vora S.M., Wang L., Fu T.M., Jacobson M.P., Wu H. Gasdermin D pore structure reveals preferential release of mature interleukin-1. *Nature* 593:607-611 (2021)

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