

## Product datasheet

# Recombinant cat IL-1 beta protein ab209166

### Description

<b>Product name</b>	Recombinant cat IL-1 beta protein
<b>Biological activity</b>	The biological activity of recombinant feline IL-1 beta was determined in a cell proliferation assay using the mouse T helper cell line D10S. The ED <sub>50</sub> for this effect is typically less than 1.0 pg/mL.
<b>Expression system</b>	Yeast
<b>Accession</b>	<a href="#">P41687</a>
<b>Protein length</b>	Full length protein
<b>Animal free</b>	No
<b>Nature</b>	Recombinant
<b>Species</b>	Cat
<b>Sequence</b>	AAIQSQDYTF RDISQKSLVL SGSYELRALH LNGQNMNQQV VFRMSFVHGE ENSKKIPVVL CIKKNLYLS CVMKDGKPTL QLEMLDPKVY PKKKMEKRFV FNKTEIKGNV EFESSQFPNW YISTSQAEEM PVFLGNTKGG QDITDFIMES AS
<b>Predicted molecular weight</b>	17 kDa
<b>Amino acids</b>	116 to 267
<b>Additional sequence information</b>	This product is for the mature full length protein. The propeptide is not included.

### Specifications

Our [Abpromise guarantee](#) covers the use of **ab209166** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<b>Applications</b>	Functional Studies Western blot SDS-PAGE
<b>Form</b>	Lyophilised

### Preparation and Storage

<b>Stability and Storage</b>	Shipped at 4°C. Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle. Constituents: 10% Trehalose, 90% PBS
------------------------------	---

This product is an active protein and may elicit a biological response in vivo, handle with caution.

## Reconstitution

Reconstitute with sterile phosphate-buffered saline containing at least 0.1% carrier protein.

## General Info

---

### Function

Potent proinflammatory 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.

### Tissue specificity

Expressed in activated monocytes/macrophages (at protein level).

### Sequence similarities

Belongs to the IL-1 family.

### Post-translational modifications

Activation of the IL1B precursor involves a CASP1-catalyzed proteolytic cleavage. Processing and secretion are temporarily associated.

### Cellular localization

Cytoplasm, cytosol. Lysosome. Secreted, exosome. Cytoplasmic vesicle, autophagosome. Secreted. The precursor is cytosolic. In response to inflammasome-activating signals, such as ATP for NLRP3 inflammasome or bacterial flagellin for NLRC4 inflammasome, cleaved and secreted. IL1B lacks any known signal sequence and the pathway(s) of its secretion is(are) not yet fully understood (PubMed:24201029). On the basis of experimental results, several unconventional secretion mechanisms have been proposed. 1. Secretion via secretory lysosomes: a fraction of CASP1 and IL1B precursor may be incorporated, by a yet undefined mechanism, into secretory lysosomes that undergo Ca(2+)-dependent exocytosis with release of mature IL1B (PubMed:15192144). 2. Secretory autophagy: IL1B-containing autophagosomes may fuse with endosomes or multivesicular bodies (MVBs) and then merge with the plasma membrane releasing soluble IL1B or IL1B-containing exosomes (PubMed:24201029). However, autophagy impacts IL1B production at several levels and its role in secretion is still controversial. 3. Secretion via exosomes: ATP-activation of P2RX7 leads to the formation of MVBs containing exosomes with entrapped IL1B, CASP1 and other inflammasome components. These MVBs undergo exocytosis with the release of exosomes. The release of soluble IL1B occurs after the lysis of exosome membranes (By similarity). 4. Secretion by microvesicle shedding: activation of the ATP receptor P2RX7 may induce an immediate shedding of membrane-derived microvesicles containing IL1B and possibly inflammasome components. The cytokine is then released in the extracellular compartment after microvesicle lysis (PubMed:11728343). 5. Release by translocation through permeabilized plasma membrane. This may occur in cells undergoing pyroptosis due to sustained activation of the inflammasome (By similarity). These mechanisms may not be not mutually exclusive.

---

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

## Our Abpromise to you: Quality guaranteed and expert technical support

---

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
  
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you

- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

### **Terms and conditions**

---

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors