

# Canine IL-1 beta / IL1B Protein



Sino Biological Inc.

Biological Solution Specialist

Catalog Number: 70018-DNAE

## General Information

### Gene Name Synonym:

IL-1

### Protein Construction:

A DNA sequence encoding the mature form of canine IL1B (Q28292) (Ala 115-Ser 266) was expressed, with an initial Met at the N-terminus.

**Source:** Canine

**Expression Host:** E. coli

## QC Testing

**Purity:** > 96 % as determined by SDS-PAGE

### Bio-Activity

1. Measured by its ability to bind human IL1R1 in a functional ELISA.
2. Measured in a cell proliferation assay using D10.G4.1 mouse helper T cells. The ED50 for this effect is typically 2-12 pg/mL.

### Endotoxin:

Please contact us for more information.

### Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

**Predicted N terminal:** Met

### Molecular Mass:

The recombinant canine IL1B consists of 153 amino acids and has a calculated molecular mass of 17.6 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 17 kDa band.

### Formulation:

Lyophilized from sterile 20mM PB, 0.3M NaCl, pH 6.5

Normally 5 % - 8 % trehalose and mannitol are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

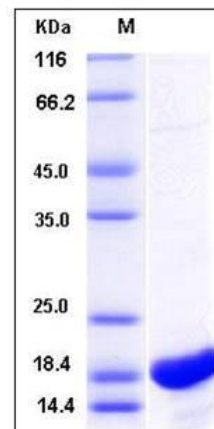
## Usage Guide

### Storage:

Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

## SDS-PAGE:



## Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## Protein Description

Interleukin-1 beta, also known as IL-1 beta, and IL1B, is a secreted protein which belongs to the IL-1 family. IL-1 proteins are involved in the inflammatory response, being identified as endogenous pyrogens, and are reported to stimulate the release of prostaglandin and collagenase from synovial cells. IL-1 / Interleukin-1 stimulates thymocyte proliferation by inducing IL-2 release, B-cell maturation and proliferation, and fibroblast growth factor activity. IL-1 beta / IL1B is produced by activated macrophages as a proprotein, which is proteolytically processed to its active form by caspase 1 (CASP1 / ICE). This cytokine is an important mediator of the inflammatory response, and is involved in a variety of cellular activities, including cell proliferation, differentiation, and apoptosis. IL-1 beta / IL1B is a potent pro-inflammatory cytokine. It is directly up-regulated by radiation and is known to regulate other inflammation-related molecules, such as the matrix metalloproteinases (MMPs) and their endogenous inhibitors (TIMPs). IL-1 beta / IL1B plays a critical role in radiation-induced fibrosis and the increased MMPs fail to block the IL1-related collagen accumulation. The induction of cyclooxygenase-2 (PTGS2 / COX2) by IL-1 beta / IL1B in the central nervous system (CNS) is found to contribute to inflammatory pain hypersensitivity.

## References

1. Liu,W.et al., 2006, Radiat Res. 165 (2): 181-91.
2. Mattuzzi,S. et al., 2007, J Rheumatol. 34 (5): 997-1004.
3. van Minkelen,R. 2007, et al., Arterioscler Thromb Vasc Biol. 27 (6): 1486-91.
4. Kim SH, et al.,2008, Mol. Vis. 14: 2109-16.
5. Levy,H. et al., 2009, Pediatr Pulmonol. 44 (6): 580-93.

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